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THE UNIVERSITY OF ALBERTA

Recovery From Disaster:
The Relation of Pre-Event Demographics, Event Characteristics, and Formal and Informal Sources of Help to Survivors' Recovery.

BY

Katherine Elizabeth Caine

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF

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IN

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(supervisor)

Frank Peters

....

....

Judith A. Golec

....
(External Exxaminer)

Date: Oct 11/89

To My Family

Heather, Chris, Harriet, John, Don, Ruth and Elizabeth

And to the Survivors

Now may the the road rise up to meet you

ABSTRACT

On July 31, 1987 a tornado wreaked destruction along a 40 kilometer path that included an industrial district and several residential communities in Edmonton, Alberta. This study documents the impact and explores a number of dimensions of recovery in relation to the informal and formal response. The dimensions of recovery include economic, housing, community, relationship, quality of life, spiritual and emotional.

Formal services are examined in terms of their visibility, accessability and utilization by those they were designed to serve. Information was collected from interviews conducted 16 months after the event. A stratified random sample of 125 residents in two distinct communities was surveyed. Interviews with key informants, volunteer and professional administrators and service providers and community leaders were conducted and written reports were reviewed.

Results indicate that while the initial response was less than complete, programs and services delivered during the clean-up and long-term recovery phases were comprehensive and provide some unique contributions to program planning. Respondents generally found services visible and accessable. Recommendations for the planning

and delivery of programs and services are provided by both service providers and survivors.

Over half of respondent's reported their recovery as being complete. Differences in recovery were greater between communities than between respondents who received minor and major damage. In contrast to other studies economic recovery was not a precursor to other dimensions of recovery. Those with major damage living in the more damaged community were most likely to describe their economic situation worse and to be more dissastisfied with the adequacy of aid and with insurance.

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CHAPTER I INTRODUCTION

On the afternoon of July 31, 1987, a tornado tore a 40 kilometer path of destruction through several residential communities and one industrial zone on the eastern edge of Edmonton. The city had never experienced a disaster of this magnitude and tornados in this geographical area were not considered a hazard. Before it was over 27 people were dead, approximately 600 were injured, and property damage was in excess of $252 million (Topp & Sauve, 1987). Over 1,700 people were evacuated while hundreds were left homeless. As rescue efforts began, so did the long process of recovery.

Raphael (1986) has defined recovery from disaster as "the prolonged period of return to community and individual adjustment or equilibrium" (p.7). Recovery is a complex process influenced by numerous factors including the level of community preparedness, the nature and scope of the disaster, the community response, and the individual experience of each survivor.

In recent years, much effort has been invested in providing programs and services to mitigate the negative effects of disaster and promote recovery. The effectiveness of these programs has not been systematically evaluated. Descriptive studies written from consultations with administrators and service providers have been the norm. Little input from the survivors' perspective as to the adequacy, relevence and usefulness of these efforts has been incorporated. In addition the methodological differences and inadequacies in studies have made comparisons of programming for disasters difficult. The purpose of the present study is to relate a description of programs and services offered to the perceptions of recipients and others for whom they were designed, in an effort to improve planning and delivery of disaster services.

A Background

Research on recovery has been conducted within several disciplines including sociology, psychology, and psychiatry. This has produced some positive results, most notably the frequent utilization of a systems perspective to describe the organized response to disaster (Drabek, 1981; Quarentelli and Dynes, 1985). Preventing disasters, mitigating their negative effects and promoting recovery of individuals and communities requires collaboration between politicians at all levels of government, administrators, service providers, and survivors. No one agency, group, or individual can effectively address all the issues that arise. To be effective, a coordinated response by all players is required. In the case of the Edmonton tornado, the reader is asked to envisage coordinating the recovery efforts offered by three levels of government in several federal, provincial and municipal departments, many non-governmental organizations and numerous community leaders, with the needs of more than 1,200 residential households and over 250 businesses, to appreciate the breadth of players and the value of a systems perspective.

Yet, overall, the literature is characterized by a lack of consensus about theory and research methods. The most significant point of difference has been the lengthy debate among researchers over the mental health effects of disaster. Two schools of thought have prevailed. The first argues that survivors experience psychic trauma often resulting in severe long term emotional and psychopathological reactions. The second perspective suggests that mental health effects are, most commonly, transitory, normal emotional reactions to an abnormal event. These reactions are frequently compounded by difficulties in reestablishing home and community. This difference in perspective has significant implications for the planning and delivery of programs and services for survivors. Quarantelli (1979) summarizes:

> If the individual trauma approach is essentially the correct one, we should be extending crisis intervention programs, preparing for outreach services for victims, and generally gearing up to handle the psychic trauma of those who have to adjust to the impact of a disaster agent. If the social fabric approach is the more valid one, a different strategy and use of resources is indicated...we should be gearing up to handle a social problem which is mainly the result of organizational inefficiency and ineffectiveness relatively independant of disaster agents. (p. 23)

Perry (1979, 1983) contends that polarization around the issue of mental health effects is a result of a vacuum in theory and the use of non-comparable research techniques and methods. He suggests arguments over the nature and extent of the mental health impact have ignored the issue of identifying processes through which disasters effect an individual's emotional stability. He identifies the need for "a framework to specify the channels through which disaster impact impinges upon individuals and might produce some psychological consequences, either positive or negative" (p.7).

Some progress has been made in the development of such a framework. The exploration has however, been unbalanced, with a greater emphasis on conditions most likely to place survivors at risk of negative mental health effects. Bolin (1985) identified characteristics of disaster events that may be assumed to be universally stressful. When there is high threat to life and exposure to death, and when the event is unexpected, of high intensity, short duration and broad scope, it has been found to create a high potential for mental health problems. Golec (1983) has identified conditions that exist after the event such as ineffective rescue efforts, inadequate aid, problems in reconstruction, and inappropriate community response, as contributing to what is termed a "secondary disaster". Difficulties arising during this time are often described as more stressful than the event itself.

Each individual response to disaster is unique, yet researchers have isolated some individual and demographic characteristics that indicate greater risk for negative effects. Significant pre-event variables include previous life events (Lazarus & Folkman, 1984); degree of stress prior to the event (Smith, 1983); ethnicity (Bolin & Bolton, 1986); age (Bell, 1978; Boatright, 1985); and family size, economic status, education, and occupation (Bolin, 1982). Significant event variables relate to the individual's perception and experience of the disaster and degree of loss. The complex relationships between event, response and individual variables make it difficult to predict individual response although they have provided some leads in assessing the overall capacity to recover.

The prediction of negative effects is compounded when mitigating variables are examined. The presence of pre-disaster planning at the community and household level (Lafond, 1989; Smith, 1983) and the existence of a disaster subculture (Mileti, Drabek, & Haas, 1975) prior to the event have been shown to have a positive effect on survivor recovery. Opportunities to participate in rescue and recovery efforts (Raphael, 1986); access to accurate information (Hartsough & Mileti, 1985); a positive perception of rescue and recovery efforts (Quarantelli & Dynes, 1985); the provision of adequate aid and insurance; the presence of an extended kinship network; the availability of appropriate social supports (Bolin, 1985); and a compassionate community response (Raphael, 1986) have also been identified as having positive effects.

What is required here is a refinement of the relationship between variables. As Hartsough argues:

> It would seem incumbent upon researchers to demonstrate what events produce what sorts of reactions in what types of populations over what length of time; and to show that such reactions are susceptible to what kinds of interventions performed by what kinds of personnel. (p.29)

B The Problem

Significant gaps have been identified in the disaster recovery literature. Although many studies have described the organized response to various events, the norm has been to stop short of evaluating the effectiveness of these efforts (Hartsough, 1985; Quarantelli, 1981). Many studies have purported to measure the mental health effects of disaster but conclusions have been offered without controlling for the effect of survivors' experience of the event or the effects of the organized response to it (Perry, 1983). Variables identified as significant in earlier studies most frequently represent aspects of the organized collective response to a disaster event. Measures of recovery should relate directly to the effectiveness of the formal and informal response to the event. Individual measures of psychological stress or psychopathology have relevance only when presented within the context of relief and recovery activities. There is a gap in the literature between the programs and services offered and survivor perceptions of what efforts are relevant and necessary to promote recovery. The present study is an attempt to close this gap.

Specifically, the purpose of the present study was to examine the recovery process of the residents of two Edmonton communities directly impacted by the July 31, 1987 tornado. The visibility, timeliness, accessibility, appropriateness and utilization of formal programs and services offered to households in two Edmonton communities in the year following the tornado were explored. The utilization of informal sources of aid and support from family, friends and neighbours were also investigated. Twelve questions formed the basis for the study

C. The Research Questions

1. Did survivors most in need of programs and services receive them?

2. Did the services and programs provided match the needs identified by survivors?

3. If a survivor received aid or service was it perceived to be adequate, helpful, timely, and accessible?

4. Were programs and services designed and offered in such a way that existing community strengths were respected or increased?

5. What needs or issues, if any, were identified for which no services or programs were available?

6. In providing service, what is the most effective and appropriate role for agencies and volunteer groups?

7. What were the formal and informal network patterns established between service providers?

8. What was the impact, if any, on service providers working with those affected?

9. What changes would service providers recommend?

10. What is the relationship between emotional, financial, physical and housing dimensions of recovery?

11. Is there a relationship between survivors' self-report of recovery, amount of damage or loss sustained, and use of services and programs?

12. How complete do survivors report their recovery to be 16 months after the tornado?

D. Plan of the Study

Information for the study was collected from three different perspectives. First, documentation of the tornado's impact was collected from a variety of sources including Environment Canada, Alberta Public Safety Services and the City of Edmonton. This pool of information provided a base from which to compare and contrast this particular disaster with other documented disasters. Second, interviews were conducted with representatives from government, non-government, and volunteer agencies and organizations. These contacts were supplemented with written reports documenting activities and services. Thirdly, interviews were conducted with community leaders and residents using a structured questionnaire. A total of 125 participants was randomly selected from a list of 1200 households stratified according to community and to the extent of property damage. Trained interviewers completed most of the questionnaires over a four week period in the fall of 1988, some 16 months after the disaster.

The nature of the communities affected, the tornado event itself, the uniqueness of the organized response and the method of the present study create some limitations to the conclusions that can be drawn.

E. Delimitations of the Study

A delimitation of the study is the restriction of subject selection to residents from the two most affected communities. As will be seen in the next chapter the tornado had a major impact on an industrial zone and to a lesser extent on several other communities. Although programs and services were offered to those living in other affected residential communities, subjects were not included from these areas as the extent of "community" impact was not great. The organized response in the industrial area was qualitatively different and was not comparable to the response in the residential communities. Fewer mental health services were provided to employees in the industrial zone than to people in the residential communities. Reasons for this difference include difficulty in accessing employees, lack of resources, an assumption by some that survivors who lost their homes would be more affected, and geographic difficulties. The industrial zone straddled the boundary between the city and an adjacent county. The county did not have the resources to offer many of the services planned within the city. Together these conditions resulted in less comprehensive programming for employees working in the area.

F. Limitations of the Study

Prior to July 31, 1987, Edmonton was a naive community with respect to disaster, particularly with respect to tornados. Other communities that have experienced such events may not view them in the same way and the response may not be the same. Although this was a severe tornado that created massive damage, its path left most of Edmonton physically unaffected and it did not overwhelm the existing patterns of service delivery for any length of time.

Although this study purports to measure the recovery process, interviews were conducted only at one time. An attempt was made to address the differential effect of time on perceptions, however results will lack the accuracy and richness of data collected on several occasions. The programs, services and resources described in this study may not be available in other communities particularily outside of Canada. The reader is encouraged to attend to the program or service rather than to who provided it. Finally, only the recovery process of those survivors who could be located is described. Survivors may move several times and when they relocate outside of the community provision of information and service becomes difficult. Only those services offered within the City of Edmonton are described and subjects include only those who could be located within the city.

The following chapter describes the event and its impact on the city of Edmonton. The political system as it relates to disaster is also outlined. The organizational structures in place to plan for and respond to disasters are reviewed. Particular attention is given to describing the two communities of this study. It is hoped this information will provide the reader with a context from which to understand the event in relation to the communities affected and the subsequent response.

CHAPTER II EDMONTON AND THE TORNADO IMPACT

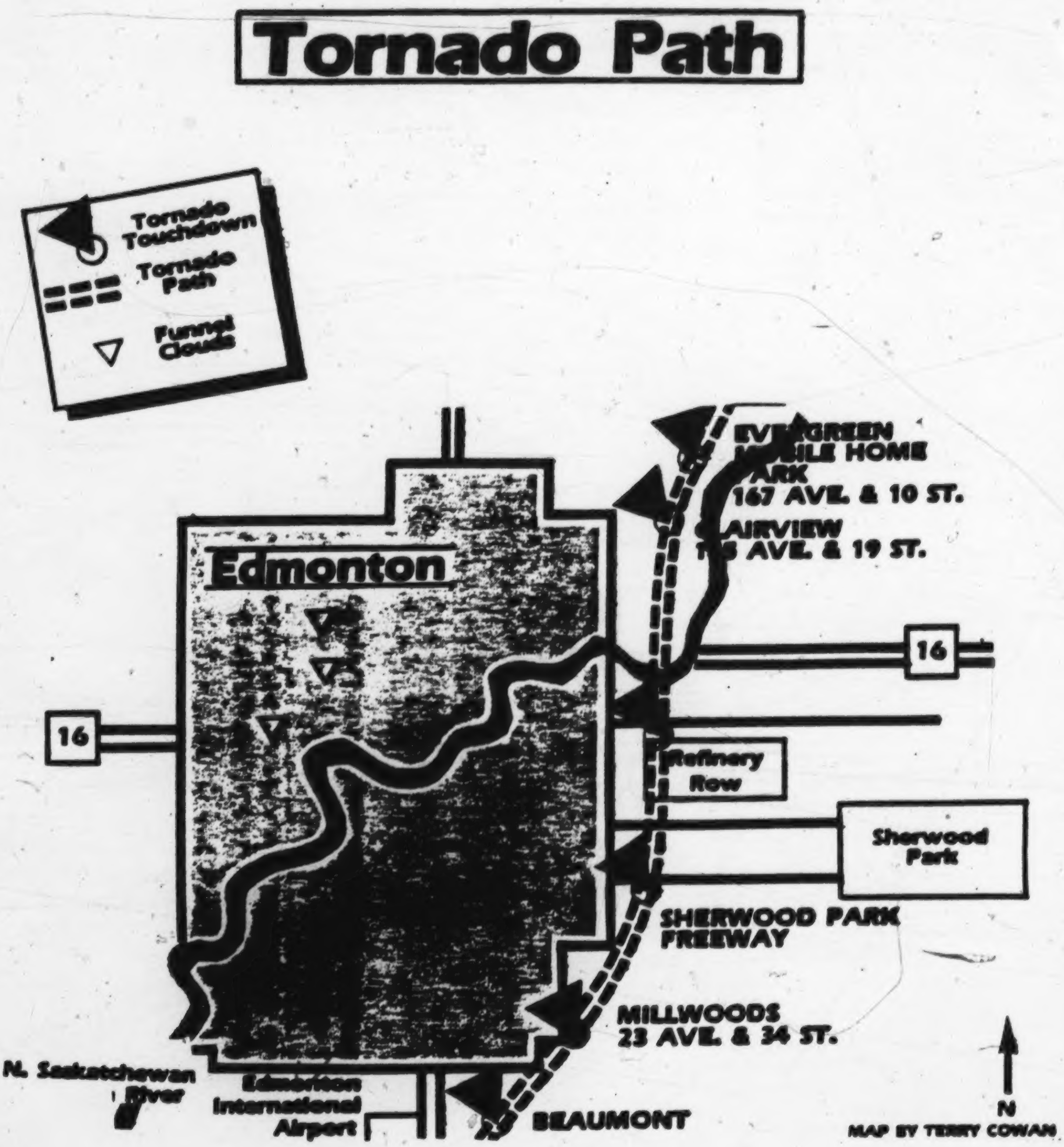
This chapter provides the reader with some understanding of the physical and social characteristics of Edmonton and the communities in this study. In order to create a picture of the damage wreaked by the tornado, its path and impact are described with particular emphasis on the two residential communities (Fig.1). This presentation of the data may be somewhat unorthodox in that discriptions of the event are presented prior to thje formal results chapter, but the intent is to enable the reader to better understand subsequent sections. The chapter concludes with an overview of the political organization of emergency services in Canada.

A. Edmonton

Edmonton is the provincial capital of Alberta with a regional population of 650,000. It is also Canada's northernmost large city. The weather is characterized by low precipitation, sunny skies, and sub-zero temperatures for several months during the winter. The only summer weather concerns are from farmers who fear crop damage from drought or hail. In winter, prolonged cold spells and blizzards are routine.

Citizens are psychologically prepared and knowledgable about what to do during winter storms. The municipality plans for these

Figure II. 1 Map of Edmonton and Tornado Path


Tornado Path
Tornado Touchdown
Tornado Path
Funnel Clouds
Edmonton
EVERGREEN MOBILE HOME PARK
167 AVE. & 10 ST.
CLAIRVIEW
AVE. & 19 ST.
16
16
Refinery Row
Sherwood Park
SHERWOOD PARK FREEWAY
MILLWOODS
23 AVE. & 34 ST.
N. Saskatchewan River
Edmonton International Airport
BEAUMONT
N
MAP BY TERRY COWAN

Source: The Edmonton Sun Black Friday, 3, 1987
Note: Clairview should be spelled Clareview.

conditions and there is an infrastructure in place to deal with them. There was nothing in the municipal plan or in the cultural history or experience of the vast majority of Edmontonians to deal with a tornado. Prior to this event the only large scale emergency Edmontonians had had to deal with was the evacuation of 10,000 residents during a gas leak nine years earlier.

There are several physical characteristics that are of relevance to the reader in understanding the setting for this study. Edmonton is divided north and south by the North Saskatchewan river. It is a major transportation centre and the north side of the city in particular is crossed with railway lines, rapid transit, and major road systems. Underpasses built to bypass rail lines often become flooded and impassable during heavy rains. These transportation corridors also isolate communities.

At the time of the tornado there was no hospital on the east side of the city. There is a regional mental hospital located within two kilometers of the Evergreen community. It provides a source of employment to many local residents and had a significant role at the time of the tornado.

The residential communities most seriously damaged were in the Clareview area located in the far northeast corner of the city. Clareview is separated from the city proper by major transportation systems and is "the end of the line" for rapid transit. Most of the residential damage occurred in the communities of Fraser, Bannerman and Evergreen. Fraser and Bannerman are two adjacent communities, virtually indistinguishable from one another, bordering the river valley park system. Evergreen is a mobile home park located even further north in a rural setting.

B. The Tornado Path and Impact

The tornado that struck Edmonton was the worst manifestation of a weather system that wreacked havoc from the southern to the northern parts of the province. For several days prior to the tornado the weather had been warm and muggy, the sky full of heavy clouds. These weather conditions, necessary to create such a massive tornado, are unusual particularly for the Edmonton area.

The first reported observation came at 2:59 p.m. from 20 kilometers south of the city. A tornado warning was issued by Environment Canada at 3:07. The initial response was generally disbelief and an assumption by most that the observation must be a dust devil, a common occurrence across the prairies. Only one radio station, CJCA, immediately issued the warning.

The path of destruction is illustrated on the map in Figure 1. The tornado was between 100 and 1,000 meters across with winds varying from 250 to 420 kilometers per hour. According to Environment Canada, this constitutes a strong F3, at times F4, tornado (F5 is the most damaging).

The tornado first touched down on farms several kilometers south west of the city. It moved north east and edged around Millwoods, a residential community, causing damage to 32 homes but no injuries. Gaining force it moved into the Reynolds Industrial Park situated between the City of Edmonton and the County of Strathcona. The destruction here was massive. Seven people died and hundreds were injured. Over 130 businesses were destroyed or seriously damaged and another 100 were damaged. An oil container was flipped over, a 300 ton roof was lifted from concrete pillars and carried 25 meters, huge buildings were blown apart, and train cars and heavy equipment were strewn around like matchbox toys. A description provided by an employee of a transport company which was totally destroyed gives some idea of the experience of those in the industrial area.

> I remember it all, I haven't forgotten any of it. I had my arm around this one little gal beside me and we were hanging onto a steel girder. All of a sudden there was a sound just like a rifle. I put my head down and I shut my eyes. I thought, "This is it". The next thing I remember I was flying and I landed in a bunch of cables, hinking, "Oh God I don't want to be laying on the floor." There was dust everywhere, it was really black, next thing I was in the other direction and I could see this little girl I'd had my arm around coming at me and I could smell beer and smell dirt...we had a load of beer on the deck. I was pinned and I could see stuff slowly coming down on me and my face was in this girls leg so I couldn't get any air and I saw her shoes and they were the same as my sisters and I kept thinking, "Whose shoes? I know those shoes. Whose are they?" I was trying to breathe and this thing kept pushing me harder against her leg and I was trying to fight against it and I just couldn't move and I thought, "Well I guess this is how it's going to end for me", and I just prayed and I said, "Well Lord, I guess you'll have to look after my kids", and that was it. And then at the same time I thought, "Oh the wind is dying down, am I going to suffocate before someone finds us?" The next thing I heard was everybody was praying out loud, some were saying like they had a rosary and another girl was saying the 23rd psalm and you could just tell everybody was afraid to move.

Debbie thought I was dead. She said all she could see was my head. There was blood dripping on her from one of the other girls who was on top of her. She had a head injury so her face was covered in blood. When she tried to move this stuff was coming down heavier on my head and I was afraid I'd be crushed so I started screaming at her not to move and I was slapping her and telling her not to move and she wouldn't so I just grabbed ahold of her and wouldn't let her go until they got it off me. And then as they pulled me out I noticed this splinter sticking out of my leg and I pulled it out. I heard someone screaming for help and I turned around and followed the voice and it was the girl who had been standing beside me. She had been sucked out of the building and was lying in a pile of rubble. We couldn't get out because we were 10 feet up. We started screaming to get help for her and they came and carried us out. The gas smell was really horrible and there were power lines laying all over the place and we were really scared the whole place would explode. They told us to go to this building and we ran from the parking lot over to this field and it was really raining hard and very cold. I had high heels on but I was running like I had running shoes on. I had to get up on the road but I couldn't climb this hill and this fellow helped me and then everybody started running.up the road. There were poles and lines all over everwhere. Everybody was afraid and we didn't want to go under them and whatever. I remember helping different people through the power lines, and what we found out later is if there really had been power in them if we had been within so many feet we'd have been-you know-so there was no power in them.

I was really worried about my kids. I was really hurting and someone wanted to get me to a hospital and I didn't want to go in an ambulance, I wanted to get to a phone to hear about my kids. We piled into a three ton truck and later I tried to get out of the truck but my legs just wouldn't work. I remember looking down a couple of times and then one of the guys says, "I'm sorry I forgot my manners", and he helped me down. I saw this one great big guy bending over helping this other guy whose leg is wide open but I looked at him and his back, something had speared into his back and he had this big gaping hole and I thought, 'Does he know that's there?" Like he's helping this guy but he needs help. So then they started attending to him while he was attending to the other guy. Then they took me to a medi-center. They must have been in shock there or something, I had to wait for half an hour until someone saw me. While I was waiting I went into the bathroom, looked in the mirror and couldn't believe it. I had piles of mud and cardboard and garbage all over the side of my face, I had cuts and bumps all over. And the doctor couldn't believe what he saw. After they fixed me up a nurse going off duty took me to her house for a shower and she checked me out again. She gave me some clothes to wear, made me coffee, then she and her husband drove me home.

From the industrial area the tornado moved into the river valley. Miraculously, it lifted over "refinery row", a complex of petro chemical and gas plants which, if hit, would have created incredible disasters of their own. Following the parks system along the north side of the North Saskatchewan river, a 1,000 meter wide funnel destroyed 37 homes in the communities of the Clareview area. Over 400 homes were damaged to a lesser degree. Damage was estimated at $7.8 million. There was no loss of life and only one person required medical attention. Survivors for the most part went to their basements. Some examples of their descriptions of the event indicate a very different experience than those of either the industrial area or Evergreen, the other affected residential community.

> "We went to the basement family room. We didn't know it was a tornado even after it hit, but we knew it was a bad storm when things started hitting the side of the house."

> "We saw the cloud in the sky but we didn't know what it was--it looked strange. We also heard a roar but had no idea it was a tornado. My husband had the common sense to tell us to go to the basement to wait it out."

> "My son was at his friend's house and the house was in the path of the tornado. I was in my basement because my daughter had called to warn me about the bad storm. After the tornado my son and his friend came. They were in a very excited state because his friend's house had been badly damaged. They said they were going back and left. When I called the mother she became hysterical and started shouting about a second tornado on the way. I ran to get the car but our fence had blown across the driveway. I picked up the whole fence and threw it into the neighbour's yard and drove around looking for the boys. But they were already at his friend's. I was sure surprised I could pick up the fence."

Search and rescue activities accounted for everyone living or visiting in Fraser/Bannerman within two and a half hours. The tornado lifted up over open fields, gained momentum and touched down again in Evergreen.

The greatest residential damage occurred in the Evergreen community. The tornado created a path of complete destruction 200 meters wide. Fourteen people died and many were hospitalized. A total of 126 homes were totally destroyed and another 82 were seriously damaged. Trailers were piled one on top of each other, some flipped over and blown as far as 55 meters away. Over 200 vehicles were damaged beyond repair. A service station was demolished and four stores damaged. Two fires broke out which were of grave concern due to leaking gas lines. Rain had caused flooding of 1.5 meters in some places and the whole area was littered with large pieces of debris making movement hazardous. The estimated cost of damage was eight million dollars. The following quotes illustrate the experience of Evergreen residents.

> "A three minute episode turns into about an hour. We walked to the windows and that's when I seen it comin'. All I could think of was that we didn't have a basement. My girlfriend was here having coffee and I put the kids and my friend in the closet and put an ironing board on top of them and I got on top of the ironing board hoping it would hold and I waited for the tornado to hit. I screamed, "Turn you son of a bitch!", and it ended up turning right in front of us. It still wiped out the whole side of our trailer.
>
> I'm still amazed that I could still think in order. You don't know whether you're going to panic, shit, or go blind. My insides just went and I thought I was going to throw up and everything went black and I thought, "You can't do this." And then something that comes from your toes kind of kicks in and, whether it's survival instinct or what, just hits you like a brick and says move, do something, get thinking.

I figured I'd be the first one to freeze in front of anything. My logical thinking patterns astounded me, like how could you think of all these alternatives and what to do and what not to do. When people panic they do stupid things, but my brain still worked, kind of at a funny level but it worked just fine. I never knew a mother instinct could be so strong. I know the idea of losing one of your children just kills you but I was saving them and I was on top and I was saving them and I was the one that was flying around the trailer and they were safe."

"I went to three different rooms in the trailer before I realized there was no safe place so I lay on the kitchen floor protecting my daughter by laying over her."
(Respondent was 7 months pregnant at the time)

"I didn't know it was a tornado--I thought it was a nuclear bomb. It was dark and there was a loud hissing sound. I looked out and saw a trailer blow up. I took my little guy off the bed and went into the middle washroom. I covered him with a blanket and crawled beside the tub. When the wind stopped I covered the baby and went to the first aid station. I walked in puddles up to my waist."

"We saw the wind coming. We heard a loud noise. The trees were bending, things were flying...It was really dark. We saw this thing coming and we could see all this stuff flying around in it. Mo says, "That's more than a big wind we had better get out of here". We just put our hand on the front door and our home just lifted up. The noise--we could hear everything breaking--and I said, "Good God, what's happening!", and that was it. We were buried from the waist down and debris just kept coming down and hitting us and hitting us. And I kept saying, "God let me get up". I tried to get up but my husband said to stay down and he covered my head with his hands and his hands were ripped and his head was ripped. My head was cut, that was probably when I blanked out. I woke up and my body was just--I looked up and it looked like an atomic bomb had hit. It was black--the rain, the hail. The debris was so bad, one car was upside down the other buried. We crawled down around this big thing that turned out to be our trailer. I looked at my jacket and it was covered in blood and I said, "I must be cut". I found it and put my hand on it and it was pulsating, pulsating and then finally we saw some people running, one lady with a baby and she handed me the baby and it was blue. It was just a tiny little thing and I said, "Mo, this baby is dead", and he said, "No its not", and I shook it and I blew in its mouth and it started to cry and I said I needed something to cover it and he gave me his curling sweater and held the baby to my chest and held my cut at the same time...We stayed I don't know how long until a man with big rubber boots came and I told them to take the baby and then they came back and took me to

> another mobile home that was still standing and my husband went out to help others."

These descriptions are typical of those from Evergreen both in length and variety. The awareness that there was no safe place, the direct physical experience of the tornado, and the protective behaviors exhibited were the three most common themes. Rain and darkness hindered the heroic search and rescue activities carried out by first responders, employees, residents and volunteers.

After leaving a path of destruction 40 kilometers long, taking 27 lives and causing damage estimated at $252 million the tornado finally lost power and lifted into the clouds five kilometers further north of the city. The City of Edmonton estimated the total cost of tornado damage and recovery to be over $750 million.

C. Nature of the Communities

Fraser/Bannerman

Fraser/Bannerman is part of a new development in the northeast corner of the city. Damaged homes were located on the perimeter of the two communities (Map Fig. 2). Although housing in the area is mixed, the homes affected were single detached houses of moderate to high cost and approximately five to 10 years old.

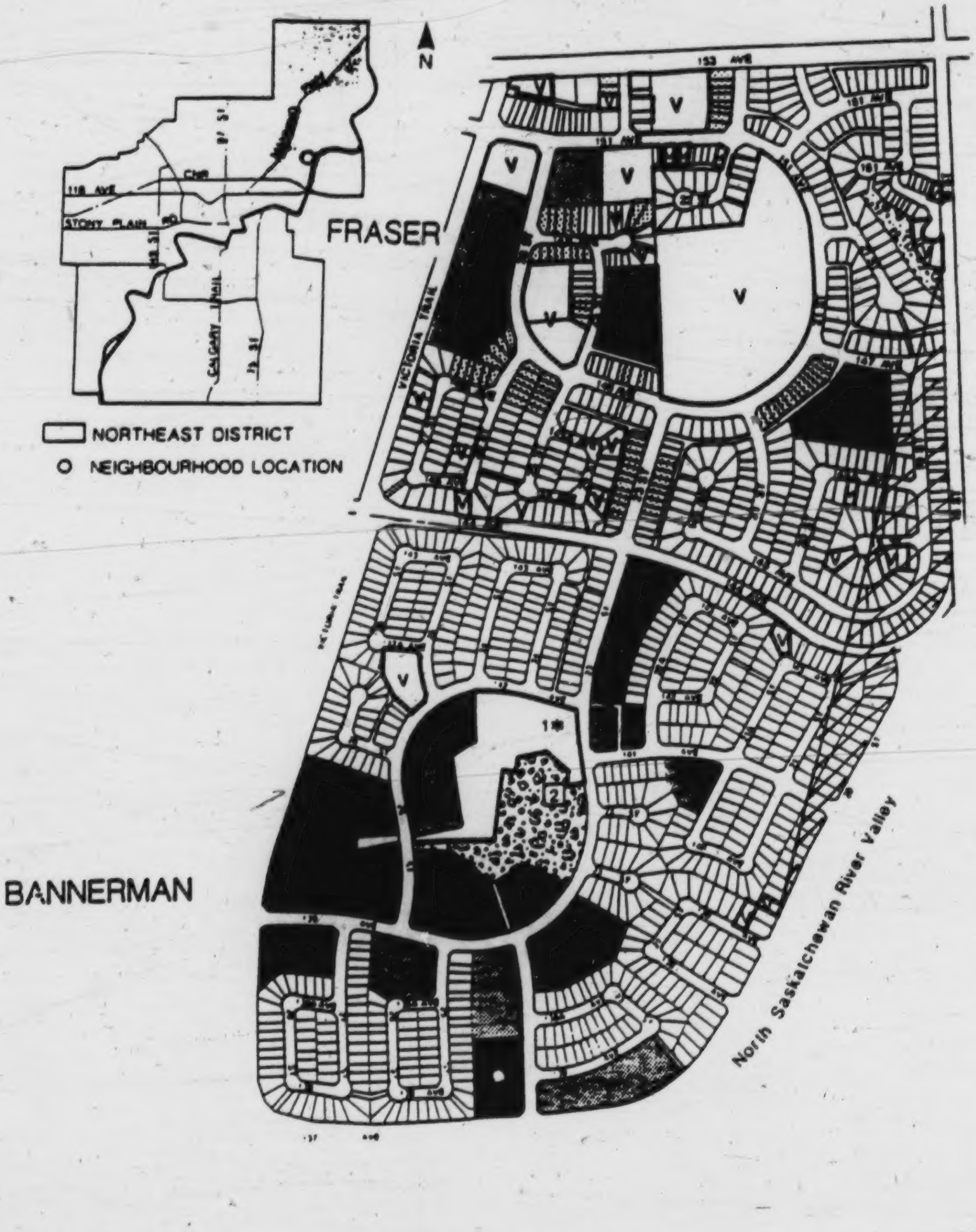
The neighbourhood profile compiled by Edmonton Community and Family Service (1989) indicates the population of Fraser/Bannerman is homogeneous, comprised mainly of young families. Almost 45 percent of the homes are single detached dwellings and just over 60 percent are owned. The Clareview area has been underserviced in terms of recreational facilities and the communities have previously banded together in common frustration to address this issue . Prior to the tornado, the community league in Fraser was active as was a parent group known as "Friends of Fraser." The president of Fraser Community League played a significant role in recovery activities. The community league in Bannerman was not as responsive.

Evergreen

The Evergreen Mobile Home Park is situated in a rural setting approximately five kilometers north of Fraser/Bannerman (Fig.2). It is surrounded by market gardens, farms and institutions. Built in 1973 there is space for 723 mobile homes, 648 of which were occupied at the time of the tornado. According to the neighbourhood profiles compiled by Community and Family Service (1989) over 80 percent of the homes are owned by the occupant. Evergreen is a self-contained community with a shopping centre, playground, recreation centre and skating rink. Children are bussed to schools outside the community.

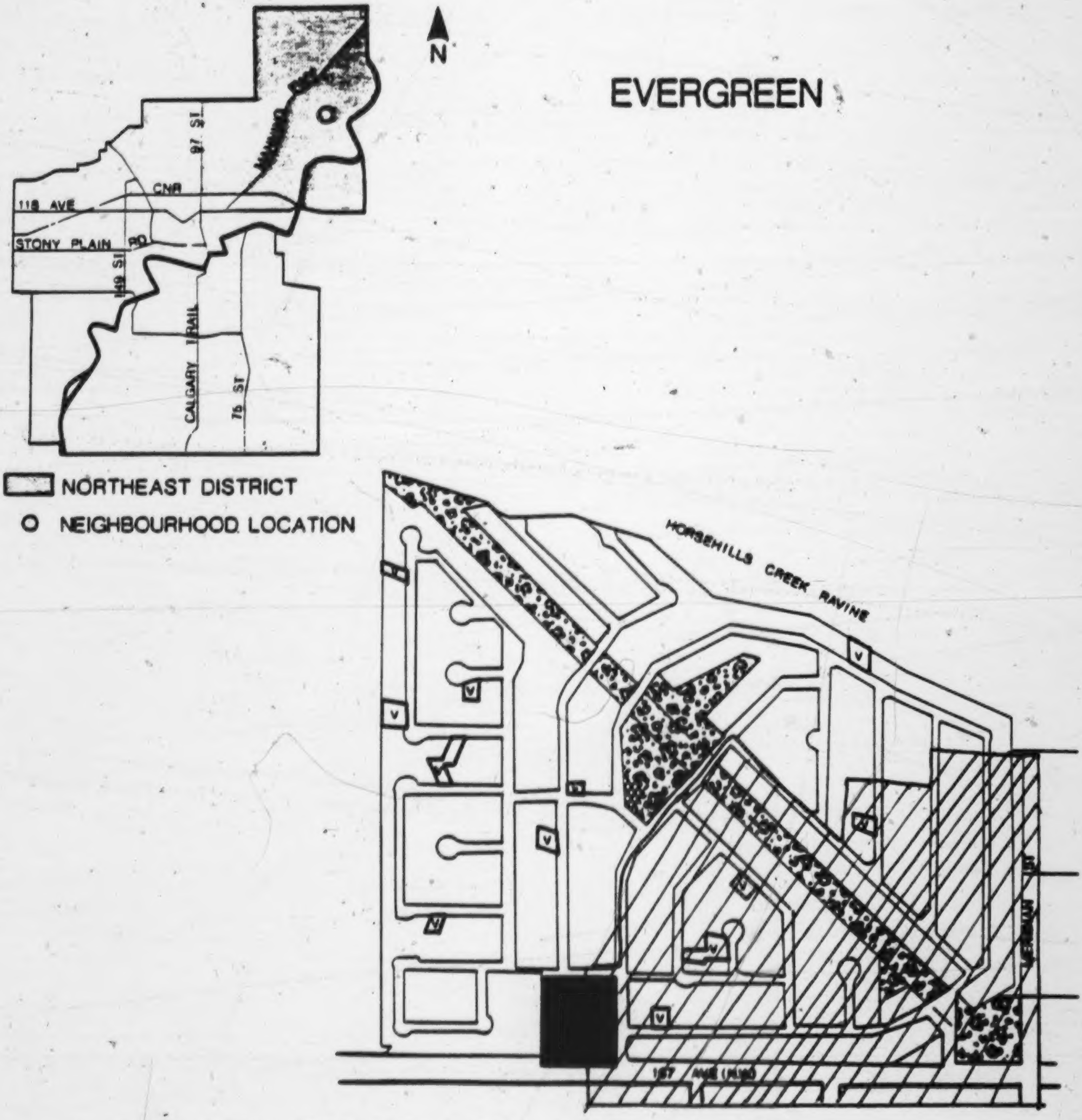
Evergreen's population of approximately 1,700 is mixed. Many live there because it is the most economical form of home ownership. There are some extended families which have had children grow up, get married and settle in Evergreen. Some seniors make their homes there and travel during the winter. More transient residents, and those who

Figure III. Map of Fraser/Bannerman


N
118 AVE
CNR
STONY PLAIN RD
CALGARY TRAIL
NORTHEAST DISTRICT
NEIGHBOURHOOD LOCATION
FRASER
BANNERMAN
133 AVE
VICTORIA TRAIL
V
1
2
North Saskatchewan River Valley

Source: City of Edmonton, Neighbourhood Profiles, 1982

Figure II Map of Evergreen


N
EVERGREEN
97 ST
CNR
118 AVE
STONY PLAIN RD
149 ST
CALGARY TRAIL
75 ST
NORTHEAST DISTRICT
NEIGHBOURHOOD LOCATION
HORSEHILLS CREEK RAVINE
MERIDIAN ST
167 AVE (NW)
V

Source: City of Edmonton, Neighbourhood Profiles, 1982.

work out of the city but require a home base, are common. For some, the ambiance of the community has been likened to that of a small town. Others offer a less cohesive and more transient image of the military's permanent married quarters.

Neither community was prepared for the events of July 31, 1987.

D. The Political Context

Within Canada, each level of government has specific responsibilities for emergency planning and response in times of disaster (Health and Welfare Canada, Medical Services Branch, 1987). Responsibility for management of peacetime emergencies and disasters begins at the most local level possible. Higher levels of government are called upon only when an emergency threatens to overwhelm the capacities and resources of the smaller system.

In Canada, disaster response at the federal level is the mandate of Emergency Preparedness Canada (EPC), an agency within the Department of National Defense. It is responsible for emergency planning at the national level and for the training of provincial and municipal administrators and emergency personnel. EPC maintains close relations with its provincial counterparts. Regional directors act as liaison between federal and provincial departments and coordinate emergency planning among federal departments in the region. The Emergency Services Division of Health and Welfare Canada works with

EPC to teach emergency health and social services planning to those responsible for personnal/services across Canada.

In Alberta at the provincial level, disaster response is part of the mandate of the Alberta Public Safety Service (APSS). The APSS headquarters is in Edmonton. Staff act as resources to municipalities by providing assistance with hazard analysis, public education, emergency planning, and training in emergency and disaster response. In times of disaster they coordinate the activities of provincial departments, administer funds from provincial and federal warrants, act as resources to municipal officials and staff, and liaise with federal departments.

At the municipal level, the mayor is responsible for emergency planning, declaring an emergency and ensuring the disaster response plan is implemented. In Edmonton, management and coordination of efforts is carried out by a director of emergency planning who is responsible directly to the city manager. The emergency planner chairs several committees some of which are organized to address identified hazards (such as pipelines and petrochemical industries), and others to ensure coordinated response efforts; for example, the Health Care Advisory Committee. The Edmonton Emergency Services Committee (EESC) is the largest committee, comprised of senior representatives from municipal departments, industry, hospitals, the Edmonton Board of Health, and non-government organizations such as the Salvation Army (Appendix A). Each member organization and city department has an emergency plan and a designated area of responsibility. Community and

Family Service (formerly Edmonton Social Services) is responsible for providing and coordinating emergency social services during an emergency. Emergency social services include provision of food, clothing, shelter, registration and inquiry, and personal services. After the July 1987 tornado, Community and Family Service (CFS) worked in cooperation with a number of other groups and organizations to see that these services were provided. This network is discussed in more detail in chapter four.

Unlike other countries such as the United States, there is no legislation at the federal or provincial level that specifies provision of funding for personal services related to mental health following a disaster. Federal and provincial funding has been provided, upon request, for specific human service related response programs after floods, chemical fires and tornados. In an attempt to address the legislative vacuum, Alberta is presently developing policies that would ensure provision of funds for personal mental health services for survivors and first responders of disasters.

In this chapter the reader has been given information about the impact of the tornado and the setting and context within which the disaster occurred. In the next chapter pertinent literature is reviewed and the structure for the study presented.

CHAPTER III REVIEW OF RELATED LITERATURE

In this chapter a review of the pertinent issues and relevant research in the disaster literature is presented. In the first section, a description of theoretical concepts provides a context from which to view disaster research as it relates to recovery. An exploration of the nature and scope of mental health effects is germane to the planning and delivery of programs and services offered after a disaster. A description of the relevant variables that have been found to influence recovery follows. Models of recovery are presented. The most salient model for the present study is described at length. Finally, a description of the organized response to disasters (including examples of programs and activities that have been implemented in other communities) is presented.

A. Disasters

The nature and diversity of disasters have led researchers to claim they are easier to recognize than to define (Barkun, 1974). Disasters have traditionally been identified with physical agents that cause physical damage and social disruption. Public and political acknowledgment that a disaster has occurred has major social and political implications in terms of the provision of aid, resources and support necessary for recovery. This review will focus primarily on studies of recovery from natural disasters in times of peace.

Powell and Rayner (1954) identified seven stages in the event of a disaster--warning, threat, impact, inventory, rescue, remedy and recovery. More recently, Cohen and Ahearn (1980) have simplified these stages into pre-impact (warning and threat), impact (impact, inventory and rescue), and post-impact (remedy and rescue) phases. In both models recovery is the last and longest stage in the disaster event. As the reader will come to understand, recovery is influenced by many factors, an obvious one being the nature of the event itself.

Not all disasters have the same potential for severe mental health impacts. Bolin (1985) and, Figley and McCubbin (1983) have identified several characteristics of disasters that increase the likelihood of negative effects. Events that are unfamiliar, unexpected, of high intensity, of short duration, and that pose a threat to life are considered most stressful. When there is loss of life and major damage, the impact is compounded. The scope of damage and the proportion of the population affected have a direct bearing on the individual's perception of the event as well as the amount of support and resources accessible to survivors.

Problems in responding to a disaster event have been called secondary disasters. A secondary disaster may occur after the actual event as a result of problems in rescue or implemention of aid and recovery programs (Raphael, 1986; Taylor, 1976). The difficulties experienced by survivors in attempting to put their lives back together during the recovery period have often been identified by them as worse than the event itself (Alchorn & Blanchard, 1988; Leivesley, 1977). Golec (1983) suggests that this difference is a result of the perception of the disaster event as a shared experience indiscriminately affecting all whereas secondary disasters have social origins and survivors often interpret their losses as victimization.

> In contrast to the collective troubles of community disaster the troubles of secondary disaster are experienced as private troubles requiring personal remedies...unexpected and prolonged hardships are more likely to be accompanied, understandably, by feelings of insecurity and distress, pessimism and an erosion of self-worth. (p. 268)

The implications of this perspective become more apparent in the following section detailing mental health impacts.

B. Disasters and Mental Health

As mentioned in Chapter 1, there has been considerable debate in the literature as to the nature and scope of mental health effects on survivors. Whether disasters cause severe long term psychopathology or rather stress and transitory emotional disturbances associated with problems in living forms the crux of the argument. The importance of coming to some consensus and resolution on this issue is more than academic. The assumptions held by policy makers, planners and service providers have a significant influence on the planning, funding and nature of service delivery programs after a disaster.

Efforts to move to a more balanced position have been hampered by what Baiseden and Quarantelli (1981), in a comprehensive review of the research, identified as a strong ideology within the mental health sector supporting the notion that disasters cause mental health problems. They found that disasters, most commonly, have been researched in terms of their negative effects (Hartsough, 1985; Lifton & Olson, 1976; Tichener, Capp & Winget, 1976).

The diagnosis most commonly associated with severe mental health effects is the Post Traumatic Stress Disorder (PTSD). This syndrome describes the disabling reaction experienced by an individual to a traumatic event. Phases of either denial or intrusion characterize the syndrome. The denial phase describes the individual's inability to recall the event, or the experience of emotional numbness and withdrawal. At the other extreme, the intrusive phase is characterized by emotional lability and an inability to control thoughts and images associated with the event. Horowitz (1974, 1980, 1985) suggests PTSD occurs when there is difficulty accepting normal feelings of rage, guilt or shame about losses or threats experienced at the time of the event. Although this syndrome is commonly referred to in the literature, the number of survivors actually diagnosed with it in most disasters is small (Raphael, 1986). In fact this syndrome is more common among first responders and emergency personnel who deal with extraordinary events on an ongoing basis (Mitchell, 1986).

If PTSD is an uncommon psychological response to disaster, what are the common responses? In separate reviews of the literature examining mental health effects of natural disasters, Leivesley (1979) and Raphael (1986) found the most frequent and common reactions to be anxiety and depression arising from the stress associated with the event and the grief that is a natural response to loss. Grief has been related to the loss of loved ones, community, homes, personal possessions and familiar patterns of everyday life (Fried, 1963; Lindemann, 1944; Raphael, 1986). Fears of the event recurring, difficulties with reconstruction, and delays in reestablishing familiar routines and daily life activities are also frequent. Separate studies of a variety of disasters found these conditions to be common and transitory (Quarantelli, 1986; Taylor, Ross & Quarantelli, 1976).

As noted earlier, little has been written about the positive effects of disaster. Raphael (1986) documents the courage and the sense of mastery that many survivors experience during impact and rescue and argues for more research in these areas. Smith (1983) has noted that disasters have some "therapeutic" features. Many positive feelings are generated from participation in the community recovery process (Barton, 1969). A sense of optimism often develops from collectively responding to the challenges of a crisis (Fritz & Williams, 1961). Communities may develop stronger bonds in working together to address issues surrounding the disaster (Miller, 1974). Primary relationships may become stronger and personal values shift (Bolin, 1982; Drabek & Key, 1984). These researchers have made some attempts to identify the conditions that supported these positive effects but their efforts have not been systematic.

Examining the issue of mental health effects from either position ignores its complexity, and assumes a uniformity in individual experience, event severity and response effectiveness. Perry (1983) argues that the:

> Controversy between positive or negative psychological effects appears to mask examination of the process through which disasters might or might not affect citizens' emotional stability. It is only through understanding the process of how disasters impinge upon individuals, and how individuals perceive and cope with these problems, that one can begin to assess the psychological consequences of natural disasters for citizens and to design programs that minimize any negative consequences. (p.2)

To begin to more systematically address this situation, the following sections define recovery, illustrate recovery models and explore the conditions that influence the recovery process.

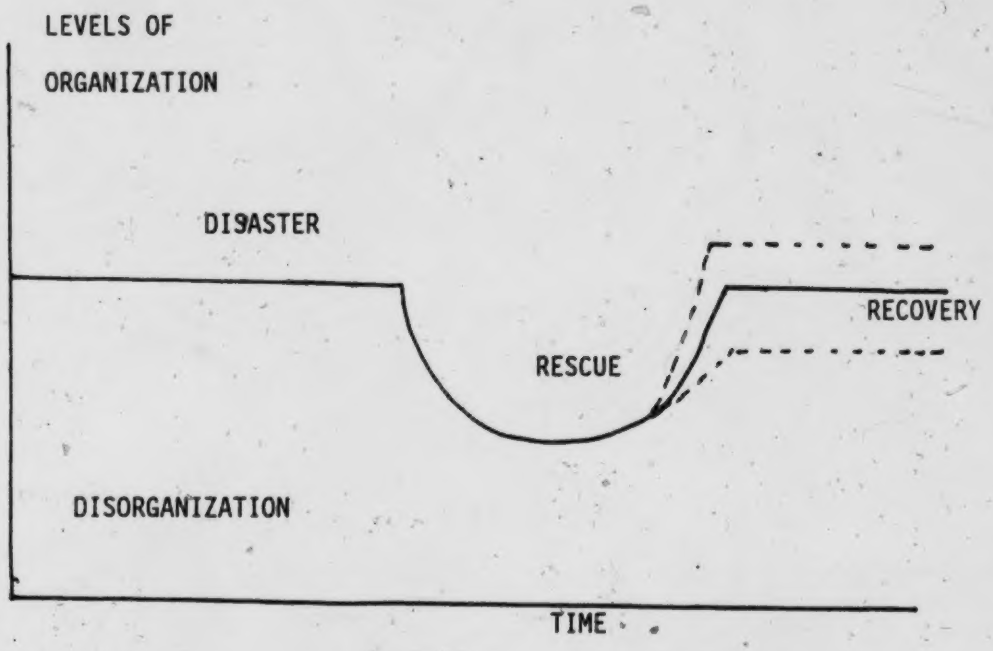
C. Recovery

Recovery is the prolonged period of return to community and individual adjustment or equilibrium (Raphael, 1986). Different models and different concepts have been profferred to explain recovery and the process of achieving it. Models have focused on time as well as the resources, processes, and activities required to effect recovery. The unit of study has been the individual, the family and the community.

Hansen and Hill's (1974) model illustrates a systems response to crisis that applies well to disaster events. As can be seen in Figure 4, the model indicates a period of disorganization followed by a period of recovery and reorganization that can be applied to individuals, families and communities. It provides a simple visual depiction of the crisis event but it requires identification of both the pre-event conditions and the mediating variables that influence the ultimate level of recovery.

FIGURE III. 4

SCHEMATIC OF FAMILY RESPONSE TO DISASTER-INDUCED STRESS



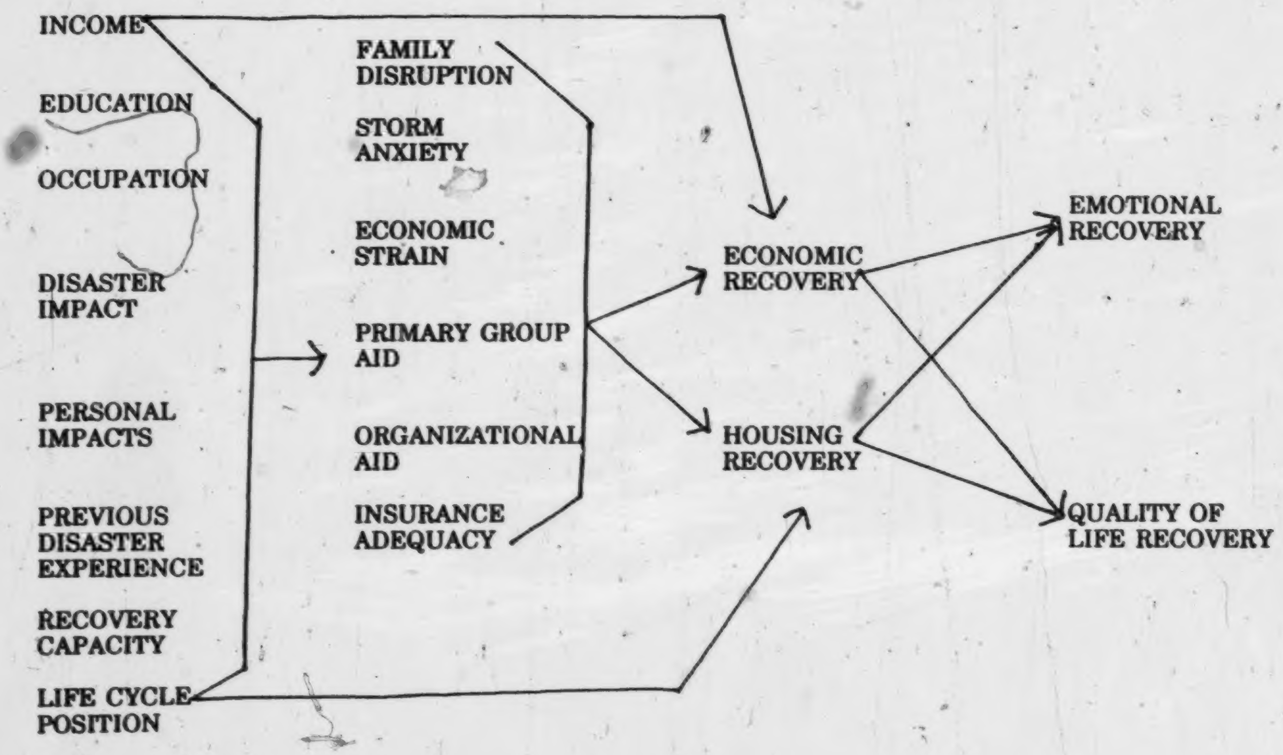
(Hansen and Hill, 1974, p. 810)

Other researchers have found the level of recovery to be related to: pre-existing factors, individual experience of the event, degree of loss, economic strain, scope of damage, degree of social disruption, community attitudes about the event, and effectiveness of relief and recovery efforts (Laube & Murphy, 1985). Specific pre-existing factors include prior experience with traumatic events, stress level before the event, coping strategies, family size, socio-economic status, education, occupation, age, and ethnicity (Bolin & Bolton 1986).

Tyhurst (1950) proposed that recovery proceeds through four stages--heroic, honeymoon, disillusionment and reconstruction. The heroic stage as its name reflects describes the activities associated with rescue. The honeymoon stage occurs in the early days or weeks after the disaster when relief is high and hope for the future is strong. Fritz and Williams (1961) noted the frequent establishment of a therapeutic community at this stage. When promised aid is slow or not forthcoming, frustration increases. This coupled with exhaustion associated with clean-up and rebuilding results in disillusionment. The last stage, reconstruction, leads to a sense of integration and completion for survivors. These stages are not linear or time limited. One stage often blurs into another or repeats itself within shorter time frames. The Tyhurst model provides some description and clarification of the emotional experiences associated with the recovery process but does not adequately identify other significant indicators of recovery. Part of the intent of the present study is to explore the complex relationships that effect all dimensions of recovery. A more comprehensive model which includes several recovery dimensions has been developed by Bolin (1982).

FIGURE V

BOLIN'S CAUSAL MODEL OF FAMILY RECOVERY


INCOME
EDUCATION
OCCUPATION
DISASTER IMPACT
PERSONAL IMPACTS
PREVIOUS DISASTER EXPERIENCE
RECOVERY CAPACITY
LIFE CYCLE POSITION
FAMILY DISRUPTION
STORM ANXIETY
ECONOMIC STRAIN
PRIMARY GROUP AID
ORGANIZATIONAL AID
INSURANCE ADEQUACY
ECONOMIC RECOVERY
HOUSING RECOVERY
EMOTIONAL RECOVERY
QUALITY OF LIFE RECOVERY

Source: Bolin, R. (1982) Long Term Family Recovery From Disaster, Monograph #36. p. 46

D. Bolin's Model of Recovery

Bolin offers a comprehensive model (Fig. 6) that encompasses pre event conditions, event characteristics, mediating variables and outcome indicators.

This model is based on studies conducted in the United States and Central America after natural disasters that included tornados, floods, earthquakes, and hurricanes (Bolin, 1976, 1982, 1985; Bolin & Bolton, 1983, 1986; Bolin & Trainer, 1978). The family was Bolin's most common unit of study. Of interest here is a 1985 study which described the recovery of families in two Texas communities after a tornado in 1979. Particular attention was given to the relationship between pre-event features of families in relation to the types and amounts of aid received and the process of recovery. A total of 400 interviews were conducted a few months after the event and 310 follow-up interviews almost two years later. Bolin selected what he called a victim group and control group from each community. Victims were selected from homes that were damaged. The controls were chosen from residences adjacent to the damaged areas. These subjects would more appropriately be considered a comparison group as other studies (Lindy, Grace & Green, 1981; Raphael, 1986) have shown that disaster effects are not limited to those who have experienced direct physical damage. Bolin used path analysis of 273 variables to identify four dimensions of recovery--housing, economic, emotional, and quality of life. He concluded that housing and economic recovery must precede quality of life and emotional recovery. The sequential relationship between economic, housing, quality of life and emotional recovery has been found to be consistent with results from his other studies. The following sections explore the variables and conditions that influence these four dimensions of recovery. Economic and housing recovery is reviewed first but emphasis is given to studies related to emotional recovery.

Economic Recovery

After a disaster households generally have four sources of income--prior equity, employment, insurance, and government aid. There are several conditions that effect economic recovery. Negative economic impact has been found to be less when employment is not affected as a continuing source of income is available. Prior equity and adequate insurance also cushion negative effects. Those most likely to have difficulty with economic recovery are those without insurance (or without adequate insurance) and those working in businesses that are destroyed, particularly small businesses (Bolin, 1985).

There are several conditions that effect the timely, equitable and adequate provision of economic aid. As mentioned at the beginning of the chapter, financial aid is more available when an event is formally declared a disaster, particularly a natural disaster. Problems with financial compensation are generally much greater when disasters are a result of human error (Fowlkes & Miller, 1988;

Erikson, 1976). Litigation efforts lengthen the time before victims receive financial recompense.

The timely provision of economic aid is as important as its adequacy. Lengthy delays leave survivors in limbo, unable to make decisions or take action that would allow them to get on with their lives (Titchner et al., 1976). The equitable distribution of aid has also been identified as significant and administrators have struggled to establish criteria and set fair guidelines (Rossi, Wright, Weber-Burdin & Perira, 1983; Wright, Rossi, Wright & Weber-Burdin, 1979). Jealousy over the perceived inequitable provision of aid has been identified as an issue that has split communities and interfered with reestablishment of positive community relations .

Economic recovery has been shown to have a consistent direct relationship with housing, quality of life, and emotional recovery (Leivesley, 1977). These results have held across a variety of disasters and across cultures (Bolin & Bolton, 1986). The costs associated with reconstruction make housing recovery inextricably linked to the adequacy of insurance and financial aid programs. The next section examines housing recovery in some detail.

Housing Recovery

The conditions influencing housing recovery relate to the location and adequacy of temporary housing, the quality and availability of labor and construction materials, the adequacy and timelines of aid and insurance and the preservation of community networks and structures.

The location and quality of temporary housing have been shown to have a significant impact on the long-term recovery of families and their communities. Relocating survivors without regard for former community relationships can seriously impede recovery. Survivors not only lose their homes and personal possessions but the support and comfort of friends and neighbours who have shared the same experience. The following examples are provided by way of illustration.

Leivesley (1979) discussed the impact of the evacuation of Darwin, Australia after cyclone Tracy devastated the city on Christmas 1974. Government officials from outside the community determined that, in the interest of safety, men would remain to clean-up and rebuild but women and children would be flown south. There they were scattered, often to relatives where relationships had previously been strained. This separation led to isolation, emotional strain and the subsequent disolution of many families.

In Buffalo Creek, West Virginia, 14 communities along a 21 mile corridor were destroyed when an impoundment collapsed releasing 132 million gallons of water, sludge and slag in February of 1972. One hundred and twenty four people were killed and 4,000 of the 5,000 residents of the communites along the creek were left homeless. These isolated Appalachian communities had been closely knit. When temporary housing was established, trailers were brought in and camps set up some distance away from the pre-existing communities. Families were assigned trailers on a first-come, first-serve basis without regard to previous community location. There were many physical problems with crowding and the quality of the housing but the greatest difficulty survivors identified was the loss of familiar surroundings and the sense of isolation they experienced living among strangers (Erikson, 1976). This process of relocation destroyed the community networks and structures that had previously united and sustained survivors.

These findings are not unique to disaster situations. In a study of the effects of housing dislocation, Fried (1963) identified the loss and grief experienced by people being relocated from neighbourhoods slated for urban renewal. Homes have been identified as having great symbolic value as places of security and refuge. Similarly, the informal networks of relationships built up within a community provide a strong source of social support.

Wright and others (1979) examined recovery at the community level from a variety of disasters. They concluded that, in the United States, communities generally recover to a level equal to or higher than that maintained prior to the disaster on measures of housing stock and business revitalization. However, Drabek and Key (1984) caution that this type of overall community measure masks differences in individual and family recovery.

The literature suggests that an accurate assessment of housing recovery must consider not only the reconstruction of homes but also the preservation and maintenance of the community networks and structures that support quality of life and emotional recovery (Raphael, 1986).

Emotional Recovery

The process of emotional recovery from disaster and its measurement is not simple or direct. The determinants of emotional recovery and the relationships among them are much more complex than those of housing or economic recovery. In this section some of the relevant constructs that have been incorporated from other areas to explain and assess emotional recovery are explored.

The literature suggests emotional recovery occurs in stages and is dependant upon both social conditions and individual responses. Lindemann (1944), as a result of his seminal work with survivors of the Coconut Grove fire in Boston, defined emotional recovery as the working through of grief associated with the loss of life, material things, security, familiar surroundings and established rituals and activities. He believed that grief work could only begin after issues of helplessness and traumatic overload had been dealt with.

The concepts of coping and mastery are of direct relevance in addressing these issues of helplessness and traumatic overload. Lazarus and Folkman (1984) define coping as encompassing a subset of strategies which include access to informational, instrumental, and social supports coupled with the individual's cognitive orientation. Aside from cognitive orientation, the concepts identified as necessary for successful coping are external in nature and are made available through the informal and formal networks and structures within the community. Individual coping in times of disaster is, to a great extent, dependant upon access to informational, instrumental and social supports provided formally and informally by others.

In contrast to the external nature of coping, mastery is a notion defined in terms of the internal, subjective and meaningful integration of an event into an individual's psyche. Raphael (1986) suggests this process is particularly important for survivors of disaster as the power and scope of such a destructive experience leads to many natural feelings of helplessness. Regaining a sense of mastery is seen as critical to the recovery process. From her work with survivors of brush fires in Australia and relatives of train crash victims, she identified many activities considered helpful in achieving a sense of mastery which, for the most part, reflect individual action. Some examples include opportunities to: participate in rescue or rebuilding activities, talk through the experience, access a broad range of feelings, share in communal rituals and ceremonies, and develop some sense of hope for the future.

Quality of Life Recovery

The loosest concept of recovery is that of quality of life. It provides an external reflection of the more internal experience of emotional recovery. Quality of life measures the daily life activities which make up the fabric of our lives. It’s measurement is determined most frequently by economic and social indicators.

The preceding discussion has been presented to give the reader an understanding of the factors and processes to be considered when reviewing programs and services designed to promote recovery. Subsequent sections will describe the historical developments that have led to the establishment of programs and services specifically addressing mental health needs and promoting emotional recovery.

E. Rationale for Mental Health Intervention

The rationale for mental health intervention is based on two assumptions. The first, discussed in the earlier section on mental health, is that disasters create severe mental health effects which need to be addressed in an organized fashion. The second assumption and its accompanying argument are presented by Ahearn (1985). He notes that survivors are ordinary people who have had an extraordinary experience. The majority of survivors have never used mental health services and would not identify themselves as normally needing such services. He argues that aggressive outreach is necessary to ensure people are informed of and have access to the information and services considered to be helpful in ameliorating the negative effects of the event.

Other reasons less related to the mental health of survivors have been offered to account for the interest in providing services. Drabek, Tamminga, Kilijanek & Adams (1981) in their studies of organizational response to disaster have noted that the provision of funding by government for mental health projects gives groups and agencies an opportunity to expand services and raise their profiles within the community. Short (1979) goes further in proposing that many programs are organized to take care of the "helping" needs of both professionals and volunteers in the community. Lastly, Baisden and Quarantelli (1981) suggest there is a strong belief in the mental health sector that something should be done for those affected by disaster. Consensus that "something" should be done has generally been achieved, agreement over what that "something" is has not.

F. Development of an Organized Response to Mental Health Needs

The first sociological study of disaster was conducted by Prince (1920) who documented the impact and response to the explosion of the Mont Blanc in Halifax harbour in 1919. The development of a research base progressed slowly until the early 1970's when a number of factors, combined with series of major disasters in North America, raised awareness of the associated social and economic costs of these events. Their frequency and scope focused attention on recovery efforts, particularly on the development of program initiatives to address the mental health needs of survivors. Researchers throughout the world were making major contributions, most notably in the United States, Australia, Israel and Scandinavia. The work of a number of professional disciplines formed a base of information from which to understand both the impact of disaster and the most effective strategies for the prevention and mitigation of severe mental health effects (Quarantelli & Dynes, 1985).

Organized mental health initiatives to promote recovery began in earnest in the 1970s (Hefferon, 1977; Stewart, 1982; Taylor et al., 1976). Previously mental health issues had been addressed in the immediate aftermath of a disaster by volunteer organizations such as the Red Cross and the Salvation Army. In the United States the impetus to shift towards organized, professional service delivery occurred as a result of changes in three areas. First, changes in legislation provided for mental health programs and made funds available for professional service providers. Secondly, significant developments in theory, research, and treatment took place within the fields of psychology and psychiatry. Family therapy (Hoffman, 1981) and crisis intervention techniques (Parad, Resnick & Parad, 1973) enabled mental health professionals to expand their treatment focus to include a family and community perspective most appropriate for disaster situations. Systems theory (Bateson, 1972; Bertalanffy, 1968), common in several scientific disciplines, offered a framework from which to develop a shared language and understanding between professionals working in the disaster field. Finally, the establishment of community mental health centres (Caplan, 1964) provided new organizational structures from which to offer programs and services. Multi-disciplinary teams working cooperatively within the community provided a model which was appropriate for organizing disaster response. These developments presented mental health professionals with a theoretical context from which to conceptualize response to disaster and the tools with which to provide services.

G. Review of Mental Health Programs

Two significant reviews of programs and services have been conducted in the United States. Tierny and Baisden (1979) reviewed the mental health response to a wide variety of disasters and concluded that although these events do induce psychological stress, severe psychopathology is rare. They suggested that immediate interventions should be designed to prevent future difficulties. Recommendations for a comprehensive, organized mental health response included provision of services such as needs assessment, outreach, crisis intervention, information and referral as well as education for the whole community.

Baisden and Quarantelli (1981) later reviewed the organized delivery of mental health services in large scale disasters in the United States over a 10 year period. They wanted to determine not only the scope of problems experienced by survivors but also the nature and organization of services offered. From this lengthy review they concluded that survivors most frequently dealt with problems in living associated with the difficult socio-pyschological and economic conditions encountered in recovering from the event and not from individual psychopathology. They summarized the type of activities typically carried out in recovery programs as including informing and educating the public about resources available, listening to complaints, making referrals to other agencies, engaging in advocacy, procuring and distributing material goods, assisting with transportation or paperwork and sometimes providing a brief and simple type of crisis intervention counselling. They determined that mental health problems were infrequent and easily handled by existing mental health systems except in unusual situations such as Buffalo Creek. They saw mental health professionals as most appropriately managing programs and supervising front line staff with limited mental health backgrounds. Baiseden and Quarantelli conclude that a social service delivery model for programming is more relevant than the medical treatment model.

As evidenced in these reviews, two common themes emerge. First, comprehensive programming requires the adoption of different strategies and activities by organizations and their service providers. Secondly, programming requires the participation of a number of agencies, groups and volunteers with varied backgrounds. The importance of multisectoral collaboration and cooperation has been identified by many researchers (Drabek et al., 1981). These themes are illustrated in the examples provided in the following sections.

H. Illustrations of Mental Health Programs and Activities

While a comprehensive mental health response requires a number of different activities, community outreach programs have become the cornerstone strategy for providing mental health services after a disaster. Outreach has value as it offers not only a service but also the potential for assessment from which future action can be determined.

The first major community outreach program to address the mental health needs of disaster survivors was in response to the Pennsylvania Floods of June 1972 (Hefferon, 1977). The Susquehanna River in Pennsylvania overflowed "flood proof dykes" forcing the evacuation of more than 72,000 people and closing over 3,000 businesses. Some two months later an outreach program was organized to address the needs of survivors. Over 50 paraprofessionals and mental health workers were employed. The paraprofessionals were chosen from within the community and given an intensive five day training experience. In the year following the flood, outreach workers canvassed over 15,000 survivors, providing supportive counselling and action in a variety of areas. Early on they mobilized survivors to fill out aid and insurance claims and helped organize clean-up activities. They also provided bereavement counselling. They aided and supported those who suffered losses in a secondary disaster resulting from the destruction of trailers in heavy winter storms. Construction problems and fraud caused additional stress which was also addressed. This program became a prototype for the delivery of outreach services in many other disasters.

In Monticello, Indiana (pop, 5,000), nine people were killed and over 350 homes destroyed or seriously damaged by a tornado in 1974 (Hartsough, Zarle & Ottinger, 1976). This small community was seriously affected and had few mental health resources. The organized response to the event was similar to that in Pennsylvania but incorporated information from other disaster research. Barton (1969) and Quarantelli and Dynes (1973) had found in separate studies that survivors initially seek help from family, co-workers and known others before seeking assistance from outsiders or formal organizations. In Monticello the community organized a "neighbour to neighbour" program using local residents to do outreach work. This effort was designed to strengthen the community and reduce possible resistance from survivors to mental health professionals from outside areas.

A different type of response was necessary for residents in the Welsh village of Aberfan (pop. 5,000). In October 1972, a coal mine tip slide killed 144 people, 116 of whom were children (Miller, 1973). Almost all of the nine and 10-year-old children in the town died. Recognizing the devastating impact of this loss on the whole community, church ministers, doctors and nurses met to plan action. This event, unlike acts of nature need not have happened and it created different needs and issues in the community. A community worker was hired to assist a community association. Acting on behalf of those who had lost family members, they organized to pressure government to eliminate mining tips, thus ensuring such an accident would never happen again. After considerable resistance from government, they were successful in having all tips removed. In many ways the struggle polarized the community into those who had lost family members and those who had not. Subsequently the whole community met together to plan future activity to promote healing. Working committees were established to address several issues. A community centre was built to house the growing interest and participation in clubs and activities including a youth choir, drama group and publication of a newsletter. Miller concluded that a strong element in the rehabilitation of Aberfan was the organization of action to purposefully deal with feelings of grief and loss by promoting meaningful change.

Others have noted the importance of collective action as a necessary component in making meaning of loss (Raphael, 1986), particularly when the loss was preventable or a result of human error. This model for collective action has subsequently been used in other situations where the event was created by human activity or where recovery was impeded by lack of appropriate action. The importance of action in communities experiencing long-term environmental disasters such as the Love Canal (Brown, 1989; Fowlkes & Miller, 1988) or groundwater contamination (Edelstein, 1988) have been well documented.

Some disasters such as fires or airplane crashes have major effects on first responders, survivors and those who lose loved ones. These types of disasters may cause limited physical damage but the intensity of the experience has high potential for creating mental health problems. First responders such as emergency medical technicians, fire, and police are particularly vulnerable (Kelly, 1984; Mitchell, 1982). One strategy for preventing burn-out and Post Traumatic Stress Disorder is Critical Incident Stress Debriefing (CISD). Debriefing is a group process technique whereby those affected by an incident have an opportunity to discuss the event and its impact and to develop skills for coping with emotional effects (Mitchell & Resnick, 1981; Mitchell, 1983). Routine use of debriefing has been shown to reduce staff turnover in these high risk professions (Mitchell, 1982).

Others who are affected by a disaster may not share a geographic community and are often difficult to identify and reach. Lindy and Eisentrout (1985) describe the response to the 1977 Beverly Hills Super Club fire where 164 people were killed and another 100 injured. Patrons had come from miles around. Identifying the bodies and working with affected family and friends required collaboration between clergy and mental health professionals in the aftermath and over the long-term. In a separate article Lindy and Lindy (1981) described the strengths and difficulties arising from differences in philosophy as well as approach between service providers. Difficulties in contacting those who might have been affected by the experience were also documented (Lindy, 1985).

I. Illustrations of the Organization and Delivery of Programs and Services

The organized response to disaster encompasses the activities of existing groups or organizations as well as those of new or emergent groups (Dynes & Quarantelli, 1980). The conditions under which emergent groups arise and the roles they assume have been described by Stallings and Quarantelli (1985). The literature indicates that mental health programs and services have been delivered by trained lay persons, clergy, public health nurses, social workers, psychologists and psychiatrists working within existing agencies and institutions as well as newly formed groups and structures. Differing roles and examples of collaboration are described here as well as examples of programming. These illustrate the scope and diversity of interventions in addition to the variety in training and background of potential service providers.

The immediate need for collaboration and coordination in the organized response to disaster rescue has been well documented by Drabek and others (1981). The need for a similar collaborative systems response during the recovery period was first clearly identified in Taylor's work documenting the response to the Xenia, Ohio tornado (1976). In the first week of April, 1974 a series of over 100 tornados moved from the south through the midwest United States into Canada. The event spawned a number of research studies related to organizing mental health services (Taylor et al., 1976; Hartsough et al., 1977). The Xenia tornado destroyed or seriously damaged over 5,000 homes and took the lives of 35 people. The massive damage brought about the establishment of new systems and structures from which to offer mental health services (Taylor et. al. 1976). No immediate response was made by the established mental health system and the initial attempt at an organized response proved ineffective in providing relevant services. Problems arose in the type of information provided to professionals which was geared primarily to sensitizing them to the anticipated rise in mental illness in the population. Some mental health facilities had been damaged and many professional helpers were themselves survivors which stretched agencies' capacities to offer service. There was no general consensus among service providers locally and inter-governmentally about what services were necessary to promote recovery. The initial services offered were provided out of agency facilities and were extensions of traditional activities. Utilization of these services by survivors was minimal.

The vacuum created by the ineffective efforts of the existing service delivery system resulted in the emergence of two new groups to deal with disaster generated survivor problems. The Interfaith Council using volunteer helpers from the church community conducted outreach with approximately 3,000 survivors to assess needs, provide aid and act as advocates. The Disaster Follow-up Group was established to provide social supports and "foster a sense of community by citizens helping and cooperation with other citizens" (p. 178). Approximately 65 volunteers worked on this program, some of whom were mental health professionals. Of the nearly 750 contacts made, 50 percent reported experiencing disaster-related problems and of those, half were classified as problems in living such as insurance claims, housing and repairs. The volunteers described the majority of mental health problems as relating to anxiety about future storms. Of the 750 persons contacted, approximately 65 were referred to traditional mental health services for further counselling. The volunteers concluded that the apparent need for help in dealing with problems in living far outweighed the demand for traditional mental health services and a coordinated multi-sectoral effort was the most effective way to address these problems.

In the United States, outreach programs have typically been carried out by volunteers or trained lay persons under the supervision of mental health professionals (Wolensky, 1979). Recognizing the shift occurring in the provision of mental health services, Fraser and Spicka (1983) presented a rationale for integrating professional mental health workers with the Red Cross who are credible in the community and have a well established volunteer network. The same pattern has not occurred in Canada.

On May 31, 1985, a tornado in Barrie, Ontario resulted in the first detailed documentation of multi-disciplinary collaboration between service providers (Logan, 1986). Mental health professionals, teachers, public health nurses, clergy, recreation personnel and a large number of volunteers offered a wide variety of outreach, education, group support and counselling services.

Their activities served as a model for the organized response to the Edmonton tornado (Cormie, Edwards, Howell, Jones, Mills, & Ready, 1988). Cormie and Howell (1987) described the role of public health workers, including psychologists, social workers and public health nurses, in the provision of service to employees after a roller coaster accident. The importance of working closely with those who had ongoing contact with affected employees was emphasized.

The provision of provincial funding for outreach programming in other Canadian disasters such as the PCB fire at St. Basile-Le Grand, Quebec; the Dryden, Ontario air crash and floods in Perth-Andover, New Brunswick and Slave Lake, Alberta, has established a pattern of organized service delivery offered by professional helpers.

Within this context of service delivery, one method of documenting and analysing the effectiveness of activites and programs in relation to recovery is presented in the next chapter.

CHAPTER IV METHOD

In this chapter, the research methods and activities used to generate, document and compile data for this study are presented. The process involved in documenting services and programs is reviewed. Procedures involved in developing the research instrument, selecting and training interviewers, selecting subjects, conducting the survey, and processing the data are outlined.

A case study method has been used in the present research. In Chapter two time was spent describing the local geographic, economic, and political context within which this disaster occurred to offer the reader a context within which the event and the response to it could be compared with other events in different communities. An intensive overview of how service provision related to recovery was collected at both the organizational and the individual level to provide a complete picture of the response from both perspectives. While individuals could not know what the complete organized response was, they were aware of what their perceptions were of the help they knew about. Relating the level of recovery to the provision of services was based on the rationale that services and programs should be directed to those most in need in order to facilitate a full and speedy recovery.

Disaster research provides many unique challenges. The timing of interviews must fit with the nature of the research question. In examining the recovery process, a balance should be met between the subjects' ability to recall certain events and the need for time for recovery to occur. In this case, interviews were conducted at one time 16 months after the event. Although many questions were designed to account for possible changes in perception over time, results will not be as rich as conducting more than one interview. Recalling events at the time of the tornado did not appear to be difficult for subjects. If anything, recall seemed to be very vivid as illustrated in the quotations in Chapter II.

A. Issues in Sampling and Subject Selection

The process of subject selection, as anyone who has done disaster research knows, is always the most dificult.Disaster researchers have recently expanded the scope and definition of victims to include those living in the vicinity, rescuers, family, friends and the community at large (Raphael, 1986). Earlier studies had selected what they called controls according to their proximity to the damaged areas (Bolin, 1982). More recently, Hartsough (1985) has suggested the use of comparison groups which does not assume that a lack of physical damage means a lack of problems in adjustment. In this study the emphasis was on measuring recovery in relation to sources of help, programs and services in two communities. For this reason a comparison group was selected from those subjects living within the general area of residential impact in order to assess both community effects and the visibility of services. Others affected throughout the city were of a different order in that they did not have to deal with the variety of agencies and service providers those living within the vicinity of the damaged area did.

For this study, a stratified random sample of subjects was selected according first to community and then by degree of damage. Selecting these parameters for sampling required consideration of several variables. The two communities were different in terms of socio-economic status, one being lower class and the other middle class. Economic differences between the two communities precluded using dollar figures alone as indicators of damage. Community and the degree of damage were considered to be the primary indicators. Three categories were initially defined:

1. Damage requiring total reconstruction or replacement
2. Damage requiring major repairs or reconstruction
3. Damage requiring minor repairs, and clean-up.

Later these categories were colapsed into two, major and minor damage. The number of destroyed or seriously damaged homes in Evergreen was approximately three times the number in Fraser/Bannerman. In order to reflect the greater impact of the storm but still keep cell numbers large enough for comparison, twice as many subjects were chosen from Evergreen as from the Fraser/Bannerman areas

As can be seen from Figure. 2, there is no significant geographic division between Fraser and Bannerman. Demographically they are very similar communities and for this study were combined into one subject pool.

Gaining access to and compiling a comprehensive list of subjects is often difficult. In this case developing a comprehensive list of all possible subjects required accessing a number of information sources. A list of names and addresses of possible subjects was available from the Edmonton Board of Health but it was not comprehensive. Public Health Nurses had conducted outreach assessments in the affected communities and had compiled a list of over 1,200 names and addresses of households they had attempted to contact. The list was meant to include all those living in Evergreen and those within a defined boundary in Fraser/Bannerman. However, many potential subjects who had lost their homes had relocated several times without leaving forwarding addresses, as had some who chose to relocate to "get away from the memories." Some attempts had been made by public health nurses to contact those who had relocated which met varying degrees of success as many had moved without leaving any forwarding address and neighbours did not know their whereabouts.

A damage code map created by Environment Canada identified by color the degree of damage to homes in Fraser/Bannerman and Evergreen. However, the assessor indicated that this map was not complete and would have to be augmented for the present study. Information from the Edmonton Board of Health, Evergreen Mobile Home Park management and the Edmonton Police Department was used to complete the map. The details of lifing the population from each community varied and will be described separately.

Matching the location of damaged properties to names and addresses in Evergreen was not difficult. A list of properties that were occupied at the time of the tornado was provided by management. Evergreen is zoned for 723 homes. At the time of the tornado, 648 lots were occupied. According to the damage code list, 126 homes were totally destroyed and 82 were seriously damaged. Due to the extensive impact on the community, all homes not requiring replacement or major repairs were included in the last category of clean-up. Using a table of random numbers one hundred and twenty eight homes were initially selected from the three categories, including 55 destroyed, 35 seriously damaged and 38 from the rest of the park.

Selecting subjects in Fraser/Bannerman involved many more challenges. The incomplete Environment Canada map of the Fraser/Bannerman communities indicated damage but not addresses. This map was first matched with Edmonton Police maps which provided addresses, then working directly in the affected areas of Fraser/Bannerman all addresses were documented and matched to damage categories to ensure a complete inventory. A random sample from each damage category was selected from this list and the addresses matched with names from the EBH. In Fraser/Bannerman, there are 552 homes to the east of 21 Street. Initially, 73 subjects were selected, using a table of random numbers, from Fraser/Bannerman. Of the 37 homes that were destroyed or required total reconstruction, 22 were selected; of the 138 damaged homes, 25 were selected; and of the 367 homes located to the east of 21 Street that simply required clean-up or some repair, 26 were selected.

A total of 201 subjects was initially selected from the two communities. Of the letters returned with no forwarding address, seven potential subjects from Fraser/Bannerman and 23 from Evergreen could not be tracked through EBH or Evergreen management. This reduced the possible number of subjects to 171, 105 from Evergreen and 66 from Fraser/Bannerman. Table IV. 1 illustrates the process of final selection.

Table IV. 1 Subject Selection by Community and Damage

Category		Total	Selected	Final
Destroyed:	Evergreen	126	55	34
	Fraser/Bannerman	37	22	10
Major Damage:	Evergreen	82	35	16
	Fraser/Bannerman	138	25	15
Minor Damage:	Evergreen	440	38	28
	Fraser/Bannerman	377	26	22
Totals:	Evergreen	648	128	78
	Fraser/Bannerman	552	73	47

B. Sources of Data

In an attempt to match the fit between the organizational information regarding services and programs provided and their effect on individual recovery, a variety of data sources and activities were used. An Interview schedule for face-to-face surveys of subjects was designed specifically for this project to determine individual experiencess and perceptions of programs and services. Interview data from subjects were augmented with information provided by community leaders and key informants who were selected on the basis of their participation in activities related to community recovery. They included formal and informal leaders.

Reports documenting activities were collected from volunteer groups and agencies to provide background data to support information from interviews which were conducted with 42 agency representatives both at the administrative and field level. Media reports and documentaries were reviewed and selected media representatives were interviewed. The writer, by virtue of her role as a psychologist with the Edmonton Board of Health, participated in and observed a wide

C. Development of the Survey Instrument

Prior to developing the present questionnaire (Appendix B), survey instruments from other disaster research were reviewed. Many of the questions from these instruments pertained to the particular event or were designed to address issues not relevant to the present study. In defining the research questions for this study, it became apparent that there was much about Edmonton's tornado and the subsequent response to it that would not be captured by existing instruments. However reviewing the structure and format of other instruments was helpful in designing the present questionnaire. Particular attention was given to a survey instruments designed by Bolin (1986) and Raphael (1986) from which some questions were adapted.

In order to address the research questions, information about several areas was required from subjects. Sets of questions were developed and grouped to provide information directly relevant to the study. Data common to all studies such as age, education, occupation, family constellation, and length of community residency were included to provide a demographic profile of subjects and their communities. These were considered to be particularly relevant because of the differences in the two communities. Other items explored the subjects' experience and that of their families at the time the tornado struck in order to gain some idea of the personal experience of the event. A series of questions detailed the tornado's impact in terms of injury, loss of life and property damage to determine the effect of the event at the individual and community level. Using dollar figures to measure property damage was not particularly useful in this case because of the different value of housing units. Degree of damage was considered a more comparable measure. Some questions were designed to explore the subjects' experiences during relocation and rebuilding. These were followed by a series of questions to determine subjects' experience and awareness of information, help and support provided during three time periods after the disaster, in the immediate aftermath, during clean-up and during the longer periods of reconstruction and recovery. Several questions were designed to elicit subjects' perception of media activity and of the media's role as a source of information, both at the time of the tornado and during the following year. The accessibility and utilization of programs and services as well as subjects' satisfaction with them, comprised another series of items. A final set of questions examined the impact of the tornado and the reconstruction on subjects' daily life activities, community, relationships, and emotional and economic recovery.

The format of questions were both closed and open ended to provide two types of data, both quantitative and qualitative. Questions that measured dimensions of recovery were numerous. An overall subjective measure of recovery was elicited with question number 141. Economic recovery was measured by questions 137, 148 and 149. Measures of housing recovery were anecdotal and were reflected in the responses to questions #38, #39 and #150. Quality of life recovery was indicated in questions #126, #136, #142 and #150. Emotional recovery was not a single measure and was identified by the response to a number of questions including #122, #123, #124, #125, #127 to #135. Relationship and community effects were measured by questions #118 to #121, #138 and #139,

A draft questionnaire was designed and piloted with community leaders who were directly affected by the tornado and knew the impact it had on others. A subsequent draft was then reviewed by service providers within the affected communities, the research review committee of the Edmonton Board of Health, selected mental health professionals, and the social work consultant with the Emergency Services Division of Health and Welfare Canada. The revised questionnaire was again piloted with residents of the affected communities and reviewed by the ethics review committee of the Department of Education Psychology. A final revision resulted in the questionnaire that appears in Appendix B.

A covering tear sheet was designed for the questionnaire to record the subject's name, address and code number as well as the interviewer's name and code number. Documentation of attempted contacts and space to record the length of interview or the reason for a subject's refusal was also included. The sheet was designed to be removed from the questionnaire to protect client confidentiality.

A letter (Appendix C) was written to inform subjects about the study and to request their participation. A consent form (Appendix D) for indicating knowledge of the study and agreement to participate was also produced.

D. Interviewer Selection and Training

A total of 10 interviewers including the writer were used in the study. Five were professional interviewers recommended by the University of Alberta Population Research Laboratory for their ability to sustain a long and emotionally charged interview. Three interviewers were public health nurses from a community north of Edmonton who were recommended by researchers from an earlier tornado study. One interviewer had conducted interviews as part of past employment.

Prior to the training session, interviewers were given a copy of the research questionnaire to review. They were asked to write any comments or questions they had on the questionnaire prior to the session.

At the training session, interviewers were provided with a package of information that included the following:

1. A map of the tornado path (Figure 1),
2. Maps of the communities affected (Figures 2 and 3),
3. A list of services offered at the Victims Assistance Centre (Appendix E),

4. Laminated illustrations of questions #67, #69, #72, and #111. (Question #111 is a description of the services and programs offered to those affected by the tornado [Appendix B]),
5. A copy of the letter sent to subjects (Appendix C),
6. A copy of the consent form (Appendix D),
7. A letter of introduction (Appendix F), and
8. A contract for service (Appendix G).

The group training session was three hours long and included the following information and activities. A detailed description of the tornado's path and its impact was given to help interviewers gain some understanding of the damages and landmarks respondents might refer to. An explanation of the purpose of the study was followed by a discussion of the importance of research ethics. The role of the interviewer and the confidentiality of information were emphasized. Written descriptions of services and programs offered during the year after the tornado were then presented, along with brief profiles of the agencies and groups involved.

An item by item review of the questionnaire allowed interviewers to ask questions they had identified earlier and provided an opportunity to ensure each item was interpreted uniformly. An explanation of the structure and format of the survey was augmented with audio taped segments of sample interviews. Suggested approaches to subjects were role played and possible difficult situations were discussed. Names and phone numbers of referral sources for help were given in the event of an urgent concern and interviewers were not able to contact the writer.

Interviewers were then assigned subjects and asked to audio tape their surveys. An individual session was scheduled with each interviewer to review the audio tapes and the first completed questionnaires. Interviewers were encouraged to call the writer with any questions or concerns. Interviewers were instructed to document comments not covered by questionnaire items. They were also requested to refer any subjects whose well-being they were concerned about to the researcher.

E. Conducting the Survey

Two weeks prior to the commencement of the interviews, subjects were sent a letter (Appendix C) explaining the study and requesting their participation. This was done to inform subjects of the legitimacy of the study and to give them an opportunity to contact the researcher with any questions or concerns. Sending letters in advance was useful in that several subjects called to express interest or to let the writer know they had moved to a new address. The writer did not document the responses but recalls receiving between six and eight calls. Letters were addressed to the adult identified on the prepared lists. However, when interviewers set up appointments if the contact person indicated a more appropriate family spokesperson their wishes were respected.

Members of the Edmonton Police Department in the district were also informed of the study in the event that they received any calls.

At the end of the training session, interviewers were given packages which included questionnaires, consent forms, supplemental information sheets, a letter of introduction, audio tapes, and a tape recorder. Labels with subjects' names, addresses and code numbers were also given to each interviewer. Upon completion of the first three interviews, each interviewer met with the writer to review the coding and written responses on the questionnaires. Selected segments of the audio-tapes were played to ensure that interviewers were following the schedule accurately.

After the initial audio-tapes were reviewed, interviewers were asked to keep only those tapes which contained information not recorded verbatim on the questionnaires. Later, interviewers reported that on several occasions subjects talked in more detail after the tape recorder was shut off and the questionnaire completed. The essence of these conversations was documented afterwards by the interviewers. When interviews were conducted with the subjects and their spouse or partner, the subject was told that comments made by the partner would be documented separately.

Interviewers varied in the number of questionnaires they completed from three to 38 with the average falling between eight and 14. Interviewers were requested to make at least four attempts at different times and on different days to contact their subjects. In order to avoid public exposure many subjects had unlisted telephone numbers which made them more difficult to contact and communicate with. Approaching subjects called for sensitivity on the part of interviewers. Although the interview was often a therapeutic experience, for some subjects it was painful, and interviewers required special skills to avoid causing unnecessary distress. In cases in which interviewers were concerned about subjects' well being they were instructed to inform them about help available and ask if they would like a referral. There were six subjects that were referred for help. Three of these subjects had experienced major damage and loss while the others had not. Three had experienced additional difficulties unrelated to the tornado but the interviewers felt these subjects' experiences at that time had made it more difficult for them to handle the other stressors.

Some interviewers reported being quite touched by respondents' stories and strong connections were made as a result. When one respondent's loved one died several weeks after the interview it was the interviewer who was called for support. Other interviewers, on their own initiative, followed up on referrals.

Most of the interviews lasted between 60 and 90 minutes. The length of interviews varied significantly by community. Twelve of the 14 interviews that were over 90 minutes long were with Evergreen respondents. Conversely, 10 of the 15 interviews that were less than an hour long were with Fraser/Bannerman respondents.

One hundred and twelve interviews were conducted from early November until mid December. The writer did not feel it was appropriate to interview close to the Christmas season. In January, a final sweep was made of subjects whose status was uncertain from which 13 more interviews were completed. In retrospect, the writer would have preferred to conduct the interviews in October and November. That time would have been far enough away from the anniversary to avoid associated emotions and also distant from Christmas.

F. Non-Participants

To describe the subjects who did not participate in the study, a summary is presented in Table IV. 2.

Table IV. 2 Reasons for Non-Participation by Community

Reason for Non Participation	Evergreen	Fraser/Bannerman
Letter Returned	23	7
Not Eligible	3	3
No contact	18	10
Refusal	7	5

There are several points of interest in relation to the non-participation of subjects. In Evergreen, there were almost three times as many subjects as in Fraser/Bannerman who were untraceable. Most of these subjects were from destroyed or seriously damaged homes. Not knowing how they recovered in the absence of programs and services is a loss to this or any other study.

In the course of interviewing, six subjects were excluded either because they were out of the city at the time of the tornado and had not received any damage to their homes or because they had moved to that address since the tornado.

Interviewers were unable to contact 28 subjects. After three attempted contacts, these subjects were left notes requesting them to call the interviewer and indicate whether they did or did not wish to participate. On three occasions interviewers reported that subjects in Evergreen were home but did not answer the door. The interviewers, who had worked on a variety of research projects over several years, indicated they had never encountered so many unlisted telephone numbers in a group of subjects. One conclusion that can be made is that even though these are recorded as non-contacts, many constitute passive refusals.

There were 12 direct refusals. Interviewers were asked to document reasons for refusals. The most common reason given was a desire to forget the tornado, "put it behind," or not "keep it alive." Two subjects refused because of their participation in other disaster studies. It should be noted that some respondents indicated they had participated in other studies. Interviewers identified some respondents who expressed irritation about being questioned more than once. The control and monitoring of the number and nature of research studies on any population after a disaster is an important research issue that will be addressed further in the discussion.

The study had a response rate of 75 percent when subjects who were not traced and those who were not eligible are excluded. This may be a conservative figure if some of the subjects not contacted were not in fact passive refusals. The 25 percent of subjects that could not be traced by normal means constitute a significant loss. Replacing them with survivors who could be located would have simply provided more of the same type of data and would not have solved the problem. The fact that outreach workers did not have the resources or skills to trace these victims has implications in the delivery of service which will be explored further in the discussion.

G. Organizational Survey and Information

In order to ensure a common base of information from key agencies and volunteer groups, a series of questions was formulated (Appendix G). These questions were designed after examining the results of the subjects' surveys and after reviewing questions addressed in other research studies. The resulting questions were presented to organizational directors along with a covering letter (Appendix H) requesting their participation in the study.

All interviews were conducted by the writer either in person or over the telephone. A total of 42 interviews were conducted with administrators, supervisors and front line staff. These data were supplemented with written reports provided by groups and agencies, as well as minutes of meetings. The description of programs and services were presented to agencies for review of content accuracy.

H. Data Processing

Completed questionnaires, consent forms and audio tapes were returned to the writer. The data was both quantitative and qualitative in nature. Qualitative data was used to describe events and more clearly illustrate quantitative results. The written comments from each questionnaire were coded and entered on a word processor. Audio-tapes were used to check the accuracy of written responses and relevant excerpts were transcribed. An item list was compiled to identify themes and develop code categories. A code book was created for the written responses. Written comments on the questionnaires were then coded and the whole questionnaire reviewed for accuracy in transposing previously coded data. A trained coder, who was also one of the professional interviewers, coded and transferred the data to sheets for key punch entry.

The questions addressed in this study have not been asked before and no one has looked at the integrated picture. This was not a study of the recovery of individuals in isolation but rather in relation to the programs and services provided for them. As a result the data is not very rigorous and therefor, in the exploratory spirit, the analysis should be tentative and somewhat cautious. The power of the analysis reflects the stage of exploration. The results can be used as a basis for the development of more rigorous studies in the furture.

The data were analysed using SPSSx. Results are most commonly presented in descriptive and tabular form. Where relationships are strong and cell numbers permit chi squares are presented. The next chapters document the results of the analysis.

CHAPTER V RESULTS: SERVICE PROVISION

There are several stories to be told in documenting the results. Like Rashamon one event has spawned a host of different reports. For that reason the results are presented in two chapters. The first chapter presents the perspective of the service providers. A brief overview of the programs and services offered during the year following the tornado are documented. These are followed by more detailed descriptions of the key players from both the government and non-government sectors and their acivities.

The second chapter presents the survivors' perspective. Demographic data from respondents provide some background and highlights similarities and differences in communities. An exploration of the respondents' experience of the event and a description of the nature and extent of damage follows. Support and help received at the time of the tornado from informal sources as well as groups and agencies is examined. Respondents' descriptions of their reconstruction experiences are presented. Summaries of respondents' experience with and perception of programs and services follow. Results are presented according to respondents' stage of recovery, community and degree of damage. Recovery measures that reflect a number of dimensions conclude the chapter.

The discussion chapter integrates the results from the two perspectives and includes comments and recommendations made by respondents and service providers as well as the observations made by the interviewers and the writer. The results from the present study are compared with results from other disasters and commonalities as well as differences are discussed.

A. Overview of Programs and Services in the First Year

The following sections briefly describe the nature of activies, programs and services offered during three time periods after the tornado. These sections are designed to provide the reader with an understanding of what occurred chronologically and how different agencies and groups became involved and came to work together.

The Immediate Aftermath: First 72 Hours

Provision of mental health services to survivors and first responders in the early hours after the tornado was uncoordinated and haphazard. While government shelters were implemented according to plan there was no one on site to direct evacuees from Evergreen to these facilities. Instead, hotels opened their doors and evacuees went there. When mental health workers which included social workers, public health nurses, psychiatrists and psychologists arrived at hotels, several commented that they found themselves with little to do. They described evacuees as shaken and subdued, interested primarily in notifying family and friends of their status and in finding out how others were doing.

Volunteers handled much of the intense mental health work. On site, Salvation Army representatives participated in search and rescue activities and provided support and hot beverages to survivors and first responders. At the Red Cross and the Edmonton Police Department's Victims Services Unit, volunteers handled hundreds of highly emotional calls from distressed family and friends wanting to know the whereabouts of those who had been in the tornado's path. Volunteers from the Victims Services Unit also provided aid in search and rescue, crowd control, and offered emotional support to survivors on site. The Victims Services Unit had volunteers at hospitals and at the Coroners Office to provide support to families who had a member or members injured or killed. Hundreds of volunteers participated in at times grisley search and rescue activities, particularly in the business area. Many first responders worked for over 48 hours without sleep under extremely stressful conditions. Some debriefings were held later with Ambulance, Red Cross staff and volunteers but these were limited in terms of the number of first responders who could participate.

In the early hours there were no designated mental health professionals to work with media to aggressively present helpful information. A private practice psychologist unaffiliated with any mental health service was very visible, initially, providing at times inappropriate information regarding emotional responses to disaster. The three agencies in charge of addressing mental health issues also did not utilize in any formal manner, a popular radio talk show hosted by credible mental health professionals.

Two of the three established agencies in charge of addressing mental health issues had disaster plans, but they had not been coordinated with each other or with hospital or volunteer agency plans. The third agency did not have an emergency plan. In spite of this, the three main agencies quickly began coordinated and collaborative planning. Senior management of the agencies believe they were able to organize as well as they did because of prior cordial working relationships at both the field and managerial level. Interagency planning and decision making was based on each agency's strengths and resources and on an orientation towards providing service first and working around system impediments.

The Clean-up And The Multi-Service Centres

The establishment of the Victims Assistance Centre (Centre) was useful in creating a structure and climate that facilitated interagency collaboration and long-term planning. It provided a central location from which 15 groups (Appendix E) offered registration, information, aid and services. The Centre was open for eight days from August 3 to 10.

Survivors went through the following process at the Centre. The Red Cross provided registration at the door. Scouts and Guides escorted survivors to a social worker who conducted an assessment interview to determine what services were required. These were often emotional interviews. If the worker was concerned about a survivor, or if the survivor identified emotional difficulties or concerns about children's reactions, they were referred to the Health and Counselling Centre coordinated by the Edmonton Board of Health. Counselling was provided by Alberta Mental Health and volunteer psychologists as well as the Edmonton Board of Health. Many mental health professionals volunteered their services. Selection was based on knowledge of therapists' orientation and experience in crisis and family or group counselling methods. In all, 113 families and 190 individuals were seen at the Centre, the majority of them during the first five days. It is of interest to note that during the time the Centre was open, only one person required immediate referral for medication.

Daily meetings provided a forum for staff to share information and coordinate activities. Early recognition of the fact that provision of one to one services would not get information and support to many who would benefit from it stimulated the development of other activities. Designated speakers began providing interviews and consultation to the media in an attempt to disperse information to a wider audience. An information sheet was written to help parents deal with their childrens' reactions, and a coloring book about tornados and other print materials were also made available to survivors. Group information and support sessions were offered in the evenings.

When the Centre closed, service providers and community representatives were concerned that survivors would need services but would not know where to go.. A small centre that included the health and counselling service was established in the Evergreen Recreation

Centre. It remained open for three days during which time five families and eight individuals were seen.

A committee comprised of senior management and field supervisors from the three main personal service agencies Alberta Mental Health (AMH), the Edmonton Board of Health (EBH) and Community and Family Service (CFS) began meeting to plan for long-term mental health services. For several weeks this committee was humorously referred to as the "No Name Committee". This may have acknowledged the generic nature of activities and services being planned. Eventually it was named the Tornados Response and Coordinating Committee (TRACC).

Long-Term Planning and Activities

The initial long term recovery planning was done by TRACC. The committee recognized that providing services would require joining together and establishing different structures and ways of working together. Committee decisions were made quickly and tasks delegated according to which agency could carry them out most expeditiously or had access to funds or other resources. Later in the transition, as senior managers returned to the overall administration of their organizations, other subcommittees took over. An interagency public education committee published a newsletter and dealt with media relations. The field staff providing long term service established an interagency committee with its own informal norms and structures.

Outreach

Outreach was carried out primarily by EBH, Disaster Response Services of the Christian Reformed Church and the Church of God In Christ-Mennonite. Working with lists generated by the Red Cross and referrals from friends, neighbours, relatives, and other service providers, the EBH began a systematic outreach program involving approximately 800 households. Three rounds of visits were completed just after the tornado, just before Christmas and in the late spring of 1988.

The Disaster Response Services of the Christian Reformed Church planned its own outreach program and brought in volunteer trainers sponsored by its church. This program was organized independently from the mainstream agency planning. After some consultation with representatives of the Christian Reformed Church the mainstream agencies recognized its program would go on with or without collaboration and a tentative working relationship was developed.

The Church of God in Christ-Mennonites, who offered clean-up, repair and reconstruction services, began assisting survivors with clean-up as soon as they were allowed access to the damage sites.

Public Education

Public education was carried out jointly by Alberta Mental Health (AMH), Edmonton Board of Health (EBH) and Community and Family Service

(CFS). Activities included giving media presentations, establishing a telephone information line, organizing community information nights, amd producing information brochures.

Media interest waned by September which was unfortunate from a mental health point of view, as it was just at that time that outreach workers identified many emotional difficulties developing from frustrations about aid, insurance and reconstruction delays. Media expressed some interest at Christmas but a real resurgence of attention did not occur until the spring of 1988 when considerable anxiety was raised by a series of smaller tornados reported southeast of the city. Predictably, there was a great flurry of media interest around the time of the anniversay.

The Citizens Action Line was designated as the official disaster information and referral telephone service. Although it was used somewhat, the existing distress and referral telephone service continued to receive the majority of calls.

Community leaders acted as consultants to service providers in determining the content of the professionally organized information nights. An emergent community group in Evergreen, the Victims Assistance Committee, also took the initiative to hold needs assessment and information meetings.

In the schools, representatives of the three main agencies worked with teachers and administrators to provide information on weather patterns, protective behaviors, and stress management. The response of each school varied according to the administrator. An active parent group, Friends of Fraser, was responsible for administering pre-teen and teen support programs.

Support Group Programs

Community support programs were organized by a number of groups with funding from the Red Cross, the United Way, the Rotary Club and Catholic Social Services. Community and Family Service, Catholic Social Services and, in Evergreen, a voluntary spiritual advisor worked with existing and emergent community groups to organize a number of formal and informal support programs. These programs were targeted at pre-teens, teens, adults, mothers and seniors and lasted anywhere from a few weeks to a year. The teen and pre-teen program organized by CFS and Friends of Fraser was the longest and most visible. Program facilitators varied in training and background from volunteer self help leaders at kitchen table "block talk" groups to youth workers and professional therapists.

Counselling

Counselling was provided by AMH Stress Counsellors hired specifically for this activity with funding from Alberta Public Safety Services. However, Catholic Social Services, the Edmonton Board of Health, school counsellors, the Disaster Response Service of the Christian Reformed Church, and Sr. Joan, the spiritual advisor at Evergreen, also provided supportive counselling.

Advocacy

Advocacy is reported to have been carried out by all agencies. In particular the Christian Reformed Church described its role as advocating and enabling people to fill out insurance claims. However the majority of advocacy was carried out by the Victims Assistance Committee with some guidance from its provincial Member of the Legislative Assembly. This emergent group, comprised of Evergreen residents, handled over 110 concerns of fellow residents who were unable to access resources or advocate on their own behalf. They worked for several months between October and the following spring on behalf of fellow survivors. They also took an active role in planning the anniversary activities.

Help for the Helpers

Debriefings

Debriefing is a group process method of providing, to those who have experienced a critically stressful incident, an opportunity to discuss their response and learn to manage symptoms of stress that may result. Debriefings were held for a number of first responders and businesses. Alberta Mental Health, with occasional assistance from the Edmonton Board of Health and Alberta Public Safety Services conducted the majority of these sessions within the first weeks after the tornado.

Training

The TRACC recognized that a great number of people who had not been part of the initial response to the disaster or the Victims Assistance Centre would be working with survivors. As a result, the committee determined that providing training and information to the professional community would be a priority.

A workshop was organized by the EBH for the end of August. Funding was provided by the United Way. Experts on mental health effects and recovery were brought in from the United States and Barrie, Ontario. A total of 165 representatives from 28 different agencies and schools attended. The purpose of the workshop was to promote communication and networking between service providers that would be necessary for facilitating referrals and service delivery later.

Newsletter

With funding from the United Way the Tornado Response Newletter was produced four times in the year following the tornado to promote the dissemination of information and facilitate referrals among service providers. An editorial committee, which was a sub-committee of TRACC, with representatives from AMH, EBH and CFS determined content and format. Content included information on the process of recovery and descriptions of programs and services. A sample is included in Appendix J. A writer was hired to produce the newsletter.

The newsletter was distributed to 200 service providers who had contact with survivors including schools, ministers, doctors and a number of public and private mental health agencies. An evaluation indicated that over ninety percent of receipients felt it should be offered again in the event of another disaster.

THE SERVICE PROVIDERS

The following description of the agencies, groups and community leaders who contributed to the long-term tornado recovery process are organized into three categories--government organizations, non-government agencies, groups and individuals and financial aid and insurance services.

A. Government Sector

City of Edmonton Emergency Planning Committee

This committee is chaired by the Edmonton Emergency Planner and is composed of senior management representatives from municipal government departments, the Edmonton Board of Health, the Edmonton Ambulance Authority, hospitals, and Alberta Public Safety Services. The group meets monthly to assess risk factors, review planning strategies and develop simulations. In the event of a disaster or emergency, the committee's purpose is to coordinate activities and remove the city from a state of emergency as quickly as possible. When the tornado struck, a number of committee members were on holiday and the committee was in fact made up of deputies. It coordinated activities out of the emergency room for the first 72 hours until the state of emergency passed and the Victims Assistance Centre was established.

Whole books could be written about the activities of this committee and first responders during the early hours and days after the tornado but that is not the purpose of this study. The present review of services outlines only the activities of those who continued service provision over an extended period of time.

Community and Family Service (Formerly Edmonton Social Services)

Community and Family Service (CFS) is a municipal preventative social service agency whose mandate is to strengthen families and communities. CFS is a member of the Disaster Planning Committee with responsibility for ensuring the provision of food, clothing, shelter, personal services, and registration and inquiry in times of emergency. Community and Family Service also is responsible for providing food for first responders. At the time of the tornado, CFS coordinated the activities of its own staff as well as those of several non-government agencies and groups including Emergency Relief Service, the Salvation Army, the Red Cross, and the Food Bank. The CFS established the Victims Assistance Centre, a one-stop multi-service centre, in a local high school. In addition to managing the Centre and ensuring that the above mentioned services were provided, CFS staff conducted assessment interviews with all registrants.

When the Centre was closed, CFS staff participated on a number of long-term interagency committees including the Red Cross Aid Tornado Relief Fund Committee, the Tornado Response and Coordination Committee, the Tornado Response Newsletter Committee and the Interagency Tornado Recovery Coordinating Committee.

The regional CFS supervisor assigned two community workers to assess community needs and develop group support programs. During the following year, the equivalent of one full-time staff member worked closely with the Edmonton Board of Health, Alberta Mental Health and community groups to facilitate group programs and public education initiatives. Staff also organized a children's tornado art and poetry exhibition which was displayed in a number of locations. Funding was received from the Rotary Club, the Red Cross and the United Way to hire two youth workers for a teen support program. Supervision for the program was initially provided by CFS then later transferred to the Friends of Fraser community group. Other CFS staff spent considerable time on the Red Cross Tornado Relief Fund Committee determining the allocation of funds to tornado survivors. The equivalent of one-full time CFS staff member was assigned to manage other tornado related activities such as the Tornado Response Newsletter and to liase with private agencies and groups such as Emergency Relief Services.

Reflections

Community and Family Service (CFS) had responsibility for a number of program and activities after the tornado. However remarks will be confined to those related to long term services delivery.

The Regional Supervisor for CFS as a result of prior training in emergency response participated in planning for a number of activities. While in general he was impressed with the interagency cooperation and collaboration he noted that there was some difficulties experienced for field level staff when the members of the Tornado Response and Coordination Committee, comprised of senior level management in the three agencies, went back to managing their agencies. The committee quit meeting before providing clear direction for those who would be together in the field. The field workers eventually established their own norms and shared mandate but he feels the process could have been eased with clearer direction from above.

The community worker for CFS worked closely with many community groups and community leaders. In retrospect she reports the only change she would make was with the Victims Assistance Committee. She recalls significant tension within the Evergreen Community around the planning of the Anniversary ceremonies. She would have put more effort into working collaborativly with the parties involved.

In reviewing the pre teen and teen support programs she notes that while they were well received they were not without challenges. The programs in Fraser/Bannerman were offered out of an elementary school. This created some difficulties as the facilities and behavioral expectations in the school were geared towards elementary age children not teenagers. The growth of the program while positive possed some problems in programing. At one point the program leaders were concerned that the increased numbers, upwards of 50, would only allow time and resources for the recreation aspect of the program at the expense of the support aspect. Some restucturing and assistance from the Parks and Recreation department resolved this problem. The issue of supervision of program staff was difficult at one point when the CFS worker would have responded differently than the community group. However she reports she was there to facilitate community activity and the decisions of the community should be respected.

At the time of the Anniversary she recalls there was considerable media attention given to AMH to the exclusion of the other agencies. This caused some hurt to those who had worked equally hard and shared many of the projects with AMH.

The CFS emergency planner in reviewing the role and activities of CFS noted that the CFS role of facilitating community support fit well within the agencies mandate. She further noted that the CFS mandate is also to provide preventative counselling and wonders whether CFS should not have had some role in this capacity.

As a result of the positive experience in collaborating with other agencies and groups CFS has increased the number of cooperative projects and activities in the community.

Alberta Public Safety Services

Alberta Public Safety Services (APSS) assists with hazard analysis, reviews local disaster plans and offers training for first responders throughout the province. In times of emergency APSS acts as a conduit for federal and provincial aid and resources. APSS staff were active in all areas of disaster response both in the first days after the tornado and over the longer term. For the purpose of this study only the social services activities and aid programs will be reviewed. The Provincial Aid program is presented in the section on financial services.

In Edmonton, an APSS representative acts as liaison and is invited to sit on the City of Edmonton Disaster Planning Committee. APSS has their own Government Emergency Operations Centre which was mobilized when the tornado struck. Due to the pressure on the city's communications system, there was no direct telephone connection with the Edmonton Emergency Room although there was an APSS staff member attending the municipal meetings.

The Edmonton tornado was the most dramatic manifestation of a weather system that created an 800 kilometer path of damage from southern to northern Alberta. The APSS assisted in coordinating disaster reponse in a number of smaller communities and in the industrial area between Edmonton and the neighboring County of Strathcona. Initially, some differences were experienced between APSS and municipal officials over the location and management of the Edmonton Victims Assistance Centre.

While the Director of Disaster Social Services with APSS did not provide direct social services to survivors he did offer suggestions for programming activities and provided copies of print resources. He also offered names of resource persons to provide training for those who would be working with survivors and arranged funding for Alberta Mental Health to hire stress counsellors. The Director of Disaster

Social Services has also worked with the Regional Director of Alberta Mental Health to begin establishing critical incident stress debriefing teams in all areas of the province. These teams would address issues associated with job related stress experienced by first responders such as firefighters, emergency medical technicians and police officers.

Reflections

Although differences between APSS and municipal agencies were resolved the Director of Disaster Social Services reports some residual frustration. He noted that although the municipality is responsible for managing its own plan, the provincial social services director was responsible for coordinating provincial and federal resources and he did not feel this was understood by municipal officials. He feels that difficulties were complicated because he had not had prior contact with the municipal officials he would be working most closely with in responding to a disaster of this nature.

Edmonton Board of Health

The Edmonton Board of Health (EBH) is also represented on the City of Edmonton Disaster Planning Committee. In times of disaster, the EBH is responsible for a) the provision of emergency nursing service and suppport to families in temoporary accommodation; b) innoculation; and c) inspection of food, water, and sanitary facilities.

In the early hours after the tornado nurses were assigned to the hotels where survivors were given refuge and later to the Evergreen site. Together with the Regional Director of Alberta Mental Health, an EBH nurse conducted debriefings with ambulance personnel. At the Victims Assistance Centre, the EBH was responsible for the coordination of the Health and Counselling Service. The Medical Officer of Health chaired the Tornado Response and Coordinating Committee which was responsible for decision making on health and counselling issues and for planning long-term service. The EBH also organized a training workshop for those who whould be working with tornado survivors.

The Clareview Health Centre is smaller than many other EBH centres with eight full time public health nurses. Six nurses from other health centres were assigned to Clareview on the weeks that visiting occured. This created some stress and adjustments for "new staff in a new community". The major outreach activity occurred in Clareview but referrals for outreach were made to other health centres throughout the city.

The EBH provided outreach, referral and follow-up contact to between 700 and 1,200 households on three different occasions beginning the week after the tornado, again prior to Christmas and lastly in the late spring. The first round of visits were by far the most challenging. It was a new activity for public health nurses, Although they had had a two day training session, they were uncertain about what to expect. A procedure for determining who would receive visits was required, and methods for tracking activity and follow-up needed to be established. Due to the severity of damage in the Evergreen community, contact was attempted with all residents. In Fraser/Bannerman, a boundary was drawn (see Fig. 2) and contact was attempted with all those within the designated boundary. Nurses also asked survivors if they knew of others who would benefit from a visit or information and these names were added to the list. Several names were added when people called in or referred friends or relatives when they heard about the service through media or word of mouth. Survivors that had moved out of the community were referred to other health centres for follow-up when a forwarding address was known. Several survivors who had been hospitalized were not visited until months after the event when their names were identified as part of another research study.

Referrals were made for approximately 300 families. The majority of referrals were for information and aid; only 36 families were referred for counselling. The EBH also participated in a number of community support and public education activities. Funding was provided for one public health nurse to participate in disaster related community education and support activities with AMH and CFS on a full time basis. The EBH also participated on the editorial committee of the Tornado Response Newsletter.

Reflections

Public health nurse administrators report that the first round of visits was by far the most challenging. It was a new activity and although staff had had a two day training session they were uncertain about what to expect. Interviews were often emotional and lengthy. Although public health nurses are accustomed to outreach visiting, the intensity of these visits together with their frequency, day after day for several weeks at a time, took an emotional toll on staff.

Staff were initially unclear as to what routine activities could be let go and what needed to continue. Without a lot of depth in staffing, even when responsibilities were clarified, concerns about incomplete work created additional stress. A psychologist was contracted for one day to explore staff concerns.

The two subsequent rounds of visits were not as difficult. Some names were added to the list each time, but there were also survivors who reported they were doing fine. In retrospect the supervisor of the health centre has some questions about the need for such massive outreach activity three times but has been unable to determine any way of pre-selecting those who need contact. The supervisor reports that the Health Centre did not resume normal programming for a full year.

EBH staff reported that having the AMH Stress Counsellors working out of the same office facilitated communication, joint programming and referral. For most of the year they worked well together and relations were close. However during the anniversary media coverage focused on the activities of the AMH Stress Counsellors to the exclusion of both EBH and CFS staff. Many of these activities had been carried out jointly and this was a severe blow to morale. For EBH staff it was compounded by what they felt was a lack of recognition within the organization for what they had done. The tornado's path left much of the city untouched and after the initial shock interest quickly diminished. This pattern was reflected within the EBH itself.

In spite of these challenges staff report pride in what they accomplished and note stronger relations both with the community residents they contacted and other service providers in the area. They developed a manual for emergency services and have become more interested in emergency training. The Director of Nursing noted the readiness of her staff to pitch in, to act in selfless ways, and to be competent. In the event of carrying out such an extensive program again, she would find more ways of showing appreciation internally and be more careful in assessing the stress level of staff.

Alberta Mental Health

This provincial agency is responsible for the mental health needs of Albertans. The Edmonton region, one of six in the province, includes a rural area that extends west of the city to the border with British Columbia. Prior to the tornado Alberta Mental Health (AMH) was not represented on the municipal Disaster Planning Committee, and as an organization, had no formal disaster plan. As a result of an earlier rail disaster outside of Edmonton the agencies Regional Director had some personal experience and training in critical incident stress debriefing. AMH had some liaison with Alberta Public Safety Services through debriefing training but no formal linkage with agencies at the municipal level. Prior to the tornado there was some liaison and referral of clients at the field level between AMH and EBH. The clientele AMH serves are most commonly the chronically mentally ill, and the agency's major linkages were with hospitals, ambulance, police and other groups which deal with chronic mental health problems.

During the first 72 hours after the tornado, the Regional Director appraised the situation, made recommendations for immediate aid and acted as a consultant on mental health issues to the provincial emergency planning committee. By chance, the Regional Director overheard a call requesting support for emergency medical technicians who had dealt with some highly traumatic situations. This resulted in the first of five debriefings conducted for emergency personnel by the regional director and a public health nurse. The AMH director went on to conduct debriefings with over 450 business and rescue personnel.

At the Victims Assistance Centre, AMH staff provided counselling and group support to survivors. AMH was active on the TRAC committee and was represented at informal meetings. After the Centre was closed, there was some difficulty in providing service to survivors from a central location. The stigma associated with AMH made referrals difficult and delivering service awkward. With additional funding of $120,000 provided by APSS three full-time positions were created for the time period of November 1, 1987 to August 31, 1988. Staff were called stress counsellors and worked out of the EBH community health centre in Clareview.

Referrals for counselling came from businesses, schools and public health nurses. In total, 83 clients were formally registered and over 100 were seen informally an average of two to three times. AMH staff worked with the EBH and CFS to deliver a number of services beyond counselling. Staff provided stress education to students in schools and to employees in the industrial area hit by the tornado. In the schools, a hand puppet named "Happy" was used to enable students to discuss experiences and feelings. In the industrial area, stress education sessions were offered in the workplace and at a local hotel. Attendance at the hotel was very low. One of the AMH Stress Counsellors had previous work experience with the media. He conducted interviews and developed a quiz to inform the public of what to do in the event of another emergency and how to develop a family emergency plan.

Reflections

The AMH Regional Director noted that, even though the agency did not have a disaster plan and was not part of the city's disaster planning committee, relations and liaisons were quickly developed at all levels with other agencies in the early hours and days after the tornado. This resulted in cooperative efforts at the Centre, participation on interagency planning committees and collaborative program delivery efforts with the EBH and CFS.

Initially existing AMH staff members had to continue with regular caseloads while covering for those who were on vacation. Additional funding from the province to hire counsellors specifically for a stress management program was welcome.

The AMH Regional Director reports that in planning the stress management programs and services after the tornado, the agency's image was taken into consideration as was the selection of personnel. In order to avoid the resistance sometimes associated with AMH and mental health labels, staff were called stress counsellors and worked out of the EBH community health centre in Clareview.

AMH had commented on the value of bringing in new people to work with survivors after the initial response. They felt new staff had a fresh perspective and were not drained by the impact of working with survivors immediately after the tornado. The Regional Director suggested there was also some consideration given to the mix of personalities that constituted the stress management team which may have had some impact as well. Stress counsellors were encouraged and supported in their efforts to be innovative in their service delivery. The AMH staff in Edmonton want to do debriefings. The Regional Director believes debriefings make a difference and boost morale for those who work with long-term clients where change occurs slowly.

In summarizing the effect the tornado had on AMH the Regional Director reports:

> It got us out of the back wards both internally and in the way we are viewed by other agencies. The tornado has taken AMH into the whole area of emergency response to "crises", debriefings and victim response. It is turning mental health around to responding quickly to those who have experienced a traumatic event and hopefully to prevent a long term chronic response to it.

Citizens Action Line

The Citizens Action Line is a municipal information and complaint line. Located in City Hall, aldermen and municipal department officials have a working relationship with its staff. The Citizens Action Line was chosen as the official tornado information line because of the ease of access to various municipal departments it affords and because of pressures on Community Connections, the local distress line and information and referral service. The number of the line was printed on the back of brochures which were distributed extensively to survivors and others, however few calls were received.

Canada Mortgage and Housing Corporation, and Alberta Mortgage and Housing Corporation

At the time of the tornado, there were a large number of vacant housing units owned by CMHC and AMHC in the Clareview area. These were primarily townhouse and condominium units. They were made available to survivors for any length of time greater than two weeks. The first six weeks rent was free. AMHC reports that over 65 families were moved into units. Most of the families stayed between four and six weeks.

B. Non Government Agencies, Groups and Individuals

Community Connections (Formerly Aid Services)

Aid Services, more recently called Community Connections, is Edmonton's distress line and information and referral service. Prior to the tornado it did not have a formal role in emergency planning. It is staffed primarily by volunteers and often must struggle for adequate funding. In the first weeks following the tornado, Community Connections received 1,280 calls. It acted as a clearing house, insuring that callers were referred to appropriate services. It received no additional funding and handled the increased demand through overtime use of existing staff.

Catholic Social Services

Catholic Social Services (CSS) is a private agency which operates a variety of programs including counselling, group homes, and newcomer services. CSS was not part of the City of Edmonton Emergency Planning Committee and did not have a formal plan for service provision in times of emergency. No formal links were made by CSS with other service agencies involved with disaster response at the time of the tornado. However, CSS had just hired a new counsellor and considered it timely to allocate this person to tornado response.

The counsellor worked out of a Catholic school in the area. She established contact through the local Catholic church and began by calling those in the parish who were directly affected by the tornado. She also contacted the spiritual advisor in Evergreen, Sister Joan and a resident of Evergreen. These contacts resulted in the establishment of Wednesday evening prayer meetings held in Evergreen. Eventually, the counsellor made contact with EBH nurses from whom she received most of her referrals. She worked full-time, seeing families and individuals in their homes until the beginning of October when the AMH Stress Counsellors were hired. After October, people came directly to the counsellor at her CSS office. Later CSS provided funding to hire a facilitator for a weekly support group held at Fraser school. In the spring, another counsellor began a support group at Evergreen which met for eight weeks. CSS absorbed all the costs of these programs, and survivors were not charged for services.

Reflections

The lack of formal links between CSS and other agencies created several difficulties for front line-workers, one of whom was new to the agency. CSS staff worked individually and had no team with which to relate. Within the agency there was no awareness of the issues being dealt with and consequently little support could be offered. This sense of isolation was exacerbated by what front-line workers experienced as interagency competition, which they found strange because of the great amount of work which needed to be done. One of the counsellors reported that at times she felt as if she had to "fight her way in."

Another counsellor commented that in working with survivors she found much health in spite of the devastating trauma and loss. As a result, she felt some agencies focused too strongly on pathology. Working with tornado survivors was an intense experience which strongly influenced CSS counsellors, some of whom experienced sleep difficulties and emotional exhaustion. They recommend that all those working with survivors be part of disaster response planning in order to better share knowledge, prevent isolation and coordinate services.

The Salvation Army

The Salvation Army has a long history of providing relief to those in need. It had been recognized by the City of Edmonton Emergency Planning Committee, and Edmonton Social Services had delegated to them responsibility for coordinating the distribution of food, clothing and furniture in times of emergency.

The majority of the over 100 volunteers who assisted in providing services were Salvationists. In the early hours and days after the tornado, the Salvation Army provided beverages and sandwiches to both survivors and rescue workers at all sites. It assisted in search and rescue activities in Evergreen and provided emotional support to survivors. Counselling, advice and prayers were also offered. A canteen was set up, with donations from other agencies, to provide

16,000 hot meals to those working on site. It was kept in operation for 11 days.

At the Victims Assistance Centre, the Salvation Army officially co-ordinated the distribution of clothing, food and furniture made available through the Food Bank, Emergency Relief Services and its own Emergency Warehouse. The phenomenal growth of Emergency Relief Services created some role confusion.

After the Victims Assistance Centre closed, the Salvation Army reports having provided free of charge almost 630 counselling and support sessions at their main office and in survivors' homes.

The Food Bank

The Food Bank (Edmonton Gleaner Association) is a non-profit voluntary organization that provides emergency food hampers and advocates on behalf of those in need. Together with the Salvation Army and Emergency Relief Services, the Food Bank was asked by Community and Family Service to coordinate all emergency food and material services. Organizationally, the Salvation Army was to do a needs assessment and then make referrals to the Food Bank.

On July 31, the Food Bank was beginning its biggest food drive of the year. Public response after the tornado was described as phenomenal. There was not enough room to hold all the food donated; semi-trailers were brought in to store some of it, and food was also sent directly to Emergency Relief Services. The Food Bank received

$4,000 in donations for tornado victims which was passed on to the Red Cross. All Food Bank staff worked two weeks without a day off.

A special system was set up to serve tornado survivors. They were given first priority and received twice as much food as recipients of regular hampers. In the next two months the Food Bank provided 12,250 kilograms of food and almost 700 hampers to survivors. Most of the Food Bank activity was directed towards those from Evergreen. The United Way provided $6,000 in special funding to cover additional expenses incurred by the Food Bank in serving survivors.

Reflections

The Director of the Food Bank reported that it takes a strong advocacy position on behalf of its clients. Being part of the tornado response, the Director felt demonstrated that the Food Bank could also be an effective team player. The Director noted that the Food Bank acted as mediator in interagency disputes and worked closely with Community and Family Service which was responsible for coordinating all personal services. As a result of the event, the Food Bank has increased respect for Community and Family Service, a new level of cooperation with the Salvation Army and has established ongoing links with Emergency Relief Services.

Emergency Relief Services

Prior to the tornado this was a small volunteer service group that provided support, clothing and household furnishings to victims of fire and family violence. There were four volunteers. When the tornado struck, Emergency Relief Services (ERS) announced through the media that it would accept donations for victims. Two hours later people were lined up twenty deep in the rain with offerings. For the next three days ERS was open around the clock and then 18 hours a day.

Within one week ERS expanded from a cornerstore measuring 550 square meters to a superstore of 22,000 square meters. On one day 500 volunteers registered to help unload and sort goods and provide emotional support to victims. Social workers from the city and the province volunteered time to help those who were stressed. Companies and corporations donated a variety of items, including brooms, mops, dustpans, food, clothing, cases of baby food and disposable diapers. Thousands of toothbrushes were donated one or two at a time. Cars and semi-trailers were lined up for blocks. A semi-trailer could be unloaded in half an hour, but the line-ups were still three hours long. Volunteers with shopping carts ran up and down the waiting line of cars to accept smaller donations and help reduce the waiting time. Cash and home-made foodstuffs poured in, causing some concern for health inspectors. Donations came from throughout Alberta and across Canada.

By the end of August, 10,000 volunteers had registered with this group. Emergency Relief Services report that 1,600 individuals and families from the residential communities were served. The rapid conversion and growth that occurred with this service is remarkable. After survivors' needs had been taken care of, there was an enormous amount of goods left over. Clothing and household depots were established in remote northern communities, and free giveaways were advertised in Edmonton. After a year of moving and downsizing, Emergency Relief Service settled in a rent-free permanent location. It now deals with about 250 families per month.

Reflections

The Director of the Emergency Relief Services was most appreciative of the enormous outpouring of help from Edmontonians. She was proud of how well the agency coped with the phenomenal growth that occurred. She reports that its philosophy is to start with a hug and move from there.

The United Way

The United Way provided funding for a great number of projects and activities just after the tornado struck and during the following year. It responded by simplifying proceedures for funding and fast tracking the decision-making process. The day after the tornado, the Board and staff met and allocated $100,000 to a disaster fund. Another $10,000 was given to the Red Cross. Staff contacted all the businesses in the affected industrial park to assess needs and provided support and information for employees who were concerned about employment. In mid-September, United Way staff organized a homecoming party for Evergreen residents. The organization was represented on the Red Cross Tornado Relief Fund Committee which allocated monies to survivors. In all, the United Way funded 10 different tornado response projects. This included supporting the activities of Emergency Relief Services, the Red Cross, the Food Bank, and the Church of God in Christ-Mennonites as well as funding special projects, such as the training workshop and The Tornado Response Newsletter for service providers and support programs for adults, teens and children.

The Red Cross

The Red Cross played two distinct roles in the disaster response. The first was the provision of services in the days following the tornado and the second was the allocation of funds to survivors. The allocation of funds will be described in the section on financial services.

In the month prior to the tornado, the activities of the Red Cross were unusually preparatory for what was to come. Staff completed a training workshop in which a tornado scenario was used. The scenario was remarkably similar to what actually occurred in Edmonton. Two weeks prior to the tornado, the Red Cross signed a formal agreement with the City of Edmonton to take responsibility for Registration and Inquiry thus becoming formal members of the City's Emergency Planning Committee. At noon on the day of the tornado, the Red Cross manager met with Alberta Public Safety Services to discuss emergency response and at that time picked up several thousand Registration and Inquiry forms and put them in his trunk. Two hours later the tornado struck.

In the hours immediately after the tornado, volunteers lined up around the block in pouring rain to offer their services. Over 1,300 people volunteered and 650 were used in a variety of ways in the week following. Over 80 corporate donors offered unsolicited food, equipment, clerical services and accommodation.

Because of its large pool of human resources and historical philosophy and mandate in times of emergency the Red Cross provided many services. Registration and Inquiry was the primary activity. Almost 2,000 survivors were registered, and more than 11,000 inquiries were processed at a rate of 2-300 per hour in the first hours after the tornado. Red Cross volunteers also provided food and beverages for 600 emergency relief workers and co-ordinated emergency housing for 89 displaced families. At the Victims Assistance Centre they provided Registration and Inquiry for 842 individuals and families and offered child care. A United Way grant of $10,000 provided the Red Cross with funding for expenses associated with tornado related activities.

Reflections

The Manager of the Red Cross Emergency Service reports some initial confusion with other agencies because of the lack of awareness about the new Red Cross role. This was worked out over time. He attributes the quick response of the Red Cross to the earlier mentioned training.

Staff and volunteers handled a great number of difficult calls from distraught relatives and friends. They were not prepared for the emotional demands these calls placed upon them. Many were emotionally and physically exhausted by the experience. The Red Cross Emergency Manager at one point feared losing some staff. As a way of dealing with these effects, 55 people participated in five separate debriefings offered by AMH. The manager believes the sessions were successful in preventing burnout and loss of staff.

A strong bond and sense of team developed as a result of the tornado response. The Manager reports there was some anger and hurt expressed by staff and volunteers at the lack of recognition given for their efforts on behalf of the Red Cross. An appreciation dinner was held in October which helped ease these feelings somewhat, but the Manager reports that, in future, more attention will be given to ensuring public recognition of Red Cross volunteers.

The Manager believes the greatest learning gained from this experience was the realization that no group or agency can work in isolation. The Red Cross has since developed and strengthed its links with other service providers. With an additional grant from the United Way it has established an emergency volunteer response team to work with families displaced by fire.

Disaster Relief and Christian Public Service: The Church of God in Christ-Mennonites

The Christian Disaster Relief Committee of the Church of God in Christ-Mennonite is coordinated across North America to respond to emergencies and disaster. The Disaster Relief Committee and its sister organization, the Christian Public Service, provided volunteers from Alberta, Saskatchewan and Manitoba to help with the tornado response. Prior to the tornado they did not have liaison with the City of Edmonton Emergency Planning Committee or any of the formal service providers.

The Disaster Relief Committee worked on clean-up and repairs in the days immediately after the tornado. From August 3 to 10 volunteers provided approximately 2,097 hours of service at a cost of $1,699. An additional 850 hours of service were given to Emergency Relief Services sorting food, clothing and furniture. While awaiting the establisment of the long-term services of the Christian Public Service committee the Disaster Relief Committee provided an additional 1,000 hours of labor on long-term projects.

Long-term reconstruction projects were carried out by Christian Public Service (CPS) volunteers for almost a year. The CPS provides volunteer labor for long-term projects. The volunteers included groups of five to six young men and house parent/supervisors. Each group spent a period of three months in Edmonton working on projects during the day and often volunteering at hospitals in the evening. Over the next eight months following the tornado, the CPS provided 10,000 hours of labor on 19 different projects. In total the Church of God in Christ-Mennonites provided almost 14,000 hours of labor at a cost of $37,000. Thirty thousand five hundred dollars was paid by the Church and $5,500 was given by the United Way. An additional $1,000 was donated by private individuals.

Reflections

The head of the Disaster Relief Committee was modest when commenting on its services, saying the volunteers activities are simply part of their religion. He identified some initial difficulties in gaining access to the damaged sites and establishing relations with agencies. When asked if he would establish prior relations with emergency planning committees in the future he replied that it is not the style of his church to advertise its services.

The Northern Alberta Diaconal Conference of The Christian Reformed Church: Disaster Response Services

The Christian Reformed Church also had no prior liaison with the Emergency Planning Committee or formal service organizations in Edmonton. The services offered by the Christian Reformed Church are part of a larger world-wide agency called The Christian Reformed World Relief Committee. This group trains volunteers within local congregations to provide community development and disaster response services in times of emergency. By August, 4 volunteer trainers had flown to Edmonton to assist in planning the program and training local volunteers.

In Edmonton the program was called the Disaster Response Service. They report that 107 volunteers provided over 3,000 hours of short and long-term recovery support to 200 individuals and families. Specifically, volunteers are reported to have provided a listening ear, friendly support, advocacy, referral and information, and a Christmas gift package of small useful household items. They further report advocacy was carried out on behalf of 159 individuals. The church also organized a "mothers day out" program providing child care at the Evergreen Recreation Centre for approximately one dozen children. The program lasted until the spring of 1988.

The cost of these activities was $16,000. A training manual was developed specifically to be used in other emergencies and disasters within Canada.

Reflections

The Organizer of the Christian Reformed service reports that in the event of another disaster it would develop prior relations with established agencies. Recognizing the difficulties it experienced in developing a working relationship with agencies during the tornado response, The Christian Reformed service made specific recommendations about this in this in its manual. The Organizer reports that volunteers were positive about their experience, and some of the survivors they visited had joined church prayer groups.

Victims Assistance Committee

This committee arose as a result of frustration with the perceived lack of response to survivors' concerns. One Evergreen resident, after hearing the concerns of several others called a meeting in mid-October. Over 200 people attended and the Victims Assistance Committee was formally established. None of the members had had any experience with advocacy before and they enlisted the aid of their Provincial Member of the Legislative Assembly. They developed a plan of action and met with the Minister responsible for the provincial aid program and other government officials. Over the next several months, they acted on behalf of over 110 families whose needs were not being adequately addressed through existing programs and services. They also met with insurance agents and representatives from a number of government and non-government organizations. Committee members worked almost full-time on survivors concerns for many months. The Committee wrote a report making recommendations to the Minister. The recommendations related to all the stages of a disaster and addressed program and policy changes.

There were some complaints the committee did not act on, as members did not feel there was enough substance to them. Later, several of these people formed their own advocacy group. The Victims Assistance Committee was not always well received by government and agency representatives but they were tireless in their efforts to speak for those who they felt were not able to speak for themselves. They also experienced some differences with the Evergreen Community

League in planning the tornado anniversary ceremonies. These disagreements were eventually resolved.

Reflections

The Chairperson of the Victims Assistance Committee felt the province was not living up to its promises. Although she personally thought that people should have had insurance, she also felt that if the province promised to take care of people then the promise should have been honored "A promise is a promise." She was also angered by the stories she heard about the treatment some Evergreen residents were receiving from government officials and insurance agents.

She gained some personal satisfaction from the committee's work. She found that putting energy into helping others delayed her own process of working through the experience at an emotional level. Others she knew had the same experience.

Friends of Fraser

Friends of Fraser is a parent organization of the Fraser Community School. Prior to the tornado it was active in organizing school related projects. After the tornado it was identified by CFS as a community group capable of supervising a pre-teen and teen support program.

Subsequently, funding was provided by the Red Cross, the Rotary Club and Alberta Career Development and Employment to hire two community workers to deliver programs for pre-teens and teens in Fraser/Bannerman and Evergreen.

Evergreen Manager: Chico Bulmer

When the Manager of the Evergreen Mobile Home Park heard the roar of the tornado approaching, he moved his staff and children playing in the recreation centre, to the basement. Within minutes after the tornado struck, he began providing first aid, using towels and sheets, for injured residents who found their way to the office. When a child with one arm attached only by an artery, was brought into the office, the Manager and a companion drove him through almost impassable roads and across downed power lines to the nearest medical centre. The Manager returned immediately to facilitate search and rescue activities. When he heard reports of another tornado approaching at six p.m., he warned residents with a loudspeaker from a truck and filled the one basement area in the park with children and injured residents.

The Edmonton Police Department report (1987) described some of his activites:

> This man was of tremendous assistance both to the park residents and the police during the hours immediately following the tornado. He set up a reception and information centre for the residents and supplied the police with maps of the park, lists of residents, information on who was on vacation and on the ownership and management of the park. He was constantly available, going without any sleep for 36 hours following the tornado (p.87).

He also provided reasoned descriptions of the event and its impact on the community to media from across North America. In those early days he acted as a one man information and referral centre.

In the next month he oversaw all clean-up and relocation activites. One of the time consuming activities he recalled, was removing the balls of pink insulation that looked like Christmas decorations hanging on the remaining trees in the park. He worked 18-20 hour days responding to resident concerns and liaising with representatives from countless agencies, volunteers, businesses and media. He was a valuable resource to service providers explaining the extent of damage, reporting on the state of clean-up activities and interpreting the culture of the community. In spite of the demands at the park, he attended meetings at the Victims Assistance Centre and later made himself and the facilities at the park available to service providers and community groups.

During the next year, he acted as a mediator between the Victims Assistance Committee and the Evergreen Community League, which were at odds about both their response to the event and their plans for an anniversary service. He interpreted the park owners' policies to residents and responded to individual resident concerns. While at times not personally in agreement with some of the "helping" efforts, his office remained a main source of information on programs and services available. Appreciation for his efforts was expressed most poignantly by a spontaneous standing ovation during the formal first anniversary ceremony.

Reflections

The Manager describes himself prior to the tornado as the type of person who was short with dumb questions or complaints. Yet for several months afterwards, he found he had much more patience. An incident that occurred a couple of weeks after the tornado illustrates this change. A resident came to the Managers' home shortly before midnight. The resident, who had lost everything when his home was destroyed, was not moving back to the park for several weeks but for some reason felt it was important to decide what type of grass seed he should plant. The Manager, who at one time had operated a golf course, and who respected what this man had gone through, invited him in for half an hour to discuss the pros and cons of different varieties of turf. While he was not always so sympathetic to residents' concerns, during the following year he did note an increase in his sense of bonding to the community.

Spiritual Advisor for Evergreen: Sister Joan

At the time of the tornado, Sister Joan was the Roman Catholic Chaplin at the Edmonton Maximum Security Institution which is located a few kilometers from Evergreen. She was not part of the City of Edmonton Emergency Planning Committee and had no formal responsibilities. At the time the tornado struck, Sister Joan was visiting a friend in Evergreen. Subsequently, she helped to evacuate the park. The following day at work, she identified prisoners whose families had been in the path of the tornado and found out their status. She also visited the homes of employees at the institution which were in the impact zone. The next day she went back to Evergreen and offered her services.

The Evergreen manager made her spiritual advisor for the park and asked her to organize a memorial service. Between 500 and 600 people attended. In the following weeks she visited survivors who were hospitalized. She also organized, together with the CSS counsellor, weekly prayer meetings at the recreation centre. These meetings provided an opportunity for survivors to come together to tell their stories and get support within a spiritual context. About 30 people attended the meetings altogether, a dozen on a regular basis. Sr. Joan made voluntary home visits to people who were having difficulties emotionally and with insurance or reconstruction.

By happenstance the Pope came to Canada not long after the tornado. Sr. Joan wrote a letter requesting his recognition of the event. He blessed the area while flying over it at the same time as the welcome home party for Evergreen residents.

In the following months, Sr. Joan acted as a mediator in the planning of the anniversay ceremonies. As mentioned earlier there were two different groups with different beliefs as to what should happen on that day. She tried to develop a balance between those who wanted to celebrate and those who wanted to mourn. One group wanted a personal private ceremony that did not involve politicians and media.

This was organized for the morning and a public ceremony was held in the afternoon.

Reflections

Many of Sr. Joan's remarks related to concerns she had about the problems survivors in Evergreen had to deal with after the tornado. She was aware of many survivors whose homes did not at first appear to be damaged but were later found to be cracked, leaking or shifted. She felt many survivors were belittled and put down by insurance adjustors and contractors. She reports she had to act as an advocate for some who did not know what to do. Sr. Joan noted that while many people in the park were able to get adequate compensation, many were lost. She was particularly upset that these survivors had to deal with such additional problems on top of their grief.

Sr. Joan has several recommendations to make about the disaster response. First, she feels small groups should have been organized throughout the park. In her view, small kitchen-table suppport groups were very effective. She reports that she kept bumping into people who were doing nothing and not getting any support. She is aware that some people did not want help but feels that, nevertheless, organized services should have been more active and persistent in their outreach efforts. She feels there was a role for sensitive volunteers to do home visiting, to be supportive, to allow survivors to tell their stories, to make referrals, and to companion survivors to support groups. She feels a lot of people had to go through recovery alone.

In Sr. Joan's opinion, mainline churches did not do enough. She notes the effectivness of the Mennonite volunteers in coming in at the level of the people. She feels spirituality is a delicate area and "people need to be supported not sold the Bible".

Sr. Joan reports that the men working for construction companies did not know how to deal with survivors who were angry, shocked and grieving. Many workers did not have a clue about what to expect or how to handle situations. They had no briefing or training and she feels it was hard on them as well as on survivors.

Personally Sr. Joan found herself to be very affected several months after the tornado. She attended a support group and initially found it to be helpful. Marking the anniversary also did much to help her come to terms with the experience.

President of the Fraser Community League: Albert Poulette

The President of the Fraser Community League also happened to be employed by Alberta Environment, responding to emergency telephone calls on environmental hazards. In this capacity, he was one of the first to receive calls from citizens who had sighted the tornado. His family was unhurt by the disaster, but his house was seriously damaged. He protected it from further rain damage and then took action to protect the community league trailer as well as 15 homes of friends and neighbours.

In the following days and weeks, he was a valuable source of information for fellow residents. He represented community concerns to a plethora of government departments and service providers. He identified the major community concern as the lack of security to keep out curiosity seekers and looters during the clean-up. He pushed strongly to have security increased. As president of the community league, he chaired community information meetings and encouraged survivors to seek out services. Over the next months he delt with the challenges of his own home reconstruction and employment responsibilities related to the tornado. He also sat on the Red Cross Tornado Relief Fund Committee and attended other tornado service-related meetings during the following year.

Reflections

The Community League President remarked that although Evergreen did experience greater damage, many in the Fraser/Bannerman community felt they had been ignored or offered service as an after-thought. He thought this was illustrated most vividly by the initial lack of security provided to the community.

C. Financial Assistance and Insurance

Government Assistance

Government aid programs were implemented for both business and residential survivors. The disaster financial assistance arrangements which are a cost shared funding formula between the provincial and federal governments were applied. Warrants for funding are signed by the province and later a portion of costs are reimbursed by the Federal government.

Existing provincial guidelines for disaster assistance were modified in response to the Premier's comments at the time of the tornado. Assistance was provided for uninsured property and furnishings and for relocation costs. For survivors without insurance the government would pay eighty percent of claims after deducting $1000. In some hardship cases the deductable could be waived. Homes were to be provided at or above replacement value. Policy dictated that only essential items would be replaced. Assistance did not cover costs for uninsured luxuries such as stereo's, books, jewelery or hobby and recreation equipment. Some assistance for landscaping costs was also provided.

The government aid program was advertised through the media and APSS staff were located in the Victims Assistance Centre. The procedure for applying for financial assistance required residential investigate. Appraisers could use some descretionary and professional judgement. Grant applications were then processed by APSS staff according to guidlines established by the Disaster Assistance Committee. Applications that did not fit the guidelines were referred to this committee which was comprised of senior government representatives from several departments. Appropriate applications were checked with the Red Cross Committee and insurance companies to prevent duplication of financial assistance. A certain percentage of applications were disallowed including those with damage claims less than $1,000.

Reestablisment grants were provided as a means of helping to bridge financing for those who had experienced severe loses to their homes. They did not depend on insurance but rather on the degree of damage and the need for relocation. Those who required lengthy relocation received up to $5,000 based on family size.

APSS staff processed over 1500 applications which came not only from Edmonton but from all across the province. Most applications were processed over a ten month period. In all the provincial government paid out 4.6 million dollars to 472 residential applicants.

Reflections

The Executive Director of the Disaster Services Division reports mixed feelings about the APSS aid programs. He identifies positive action comming out the the activities with business. Many of the small businesses had never made a business plan. He believes small businessmen benefited not only from the financial aid received but also from the opportunity to work with a business analyst and develop a business plan.

The provincial disaster assistance program was probably the most generous in Canada. This was due in no small part to the response of the Premier of the Province who had been quite moved by the nature and extent of damage when he visited Evergreen. At that time the Premier promised that the province would ensure no one would suffer. This created high hopes for survivors at a vulnerable time and in many cases policy implementation did not meet these expectations. There were difficulties in administering the aid program for residential areas particularly Evergreen where the Director of Disaster Services believes there were high expectations. He reports that almost no one received what they applied for. In some cases they got more than they claimed but more frequently less. "Although everyone has a roof over their heads it has been a lot of work and there have been frustrations."

Red Cross Aid

The Canadian Red Cross received 2.45 million dollars in unsolicited donations from across Canada and around the world. A 12 person committee was established to develop criteria for the allocation of funds. The committee was composed of representation from CFS (2), United Way, APSS (2), Alberta Social Services (2), Lawyer, Accountant, United Steel Workers, President Fraser Community League, President Red Cross Edmonton, CEO Red Cross Alberta.

The committee established four categories of eligibility for claims.

1. Loss of life
2. Injury or disability
3. Property loss
4. Special needs or hardship needs

The process for applying to the Red Cross required submitting a completed application. The category 1 benefits payment were processed through the courts. The benefactors were awarded 3500 for each loss. In this category $94,500 was awarded.

Category 2 claimants were required to produce a doctor's report describing their injuries. Each claim was reviewed by the committee, by a Red Cross staff member and by an independent lawyer. Each claimant was also interviewed by the committee. The bulk of payments went to disability claims. There are 7 long range cases of disability who currently receive between $90,000 and $120,000 annually in services, depending upon need. A social worker meets with clients monthly to ensure needs are being met. An annual assessment is conducted to review each case.

All claims in Category 3 and 4 were reviewed by the committee. Everyone in Category 3 and 4 received 300 dollars to pay the deductable for their insurance coverage. There was an assumption by the committee that everyone would have insurance or should have had insurance. The committee did not want to pay for what should have been covered by insurance. There were 1000 claims in these two categories.

A trust fund has been established for 21 children who lost one or both parents. Some funds were also allocated to two community projects in Fraser and Evergreen. Currently there is $700,000 held in trust for long term needs. The committee plans to meet every five years to review cases and determine what more needs to be done.

Reflections

The Chairman of the Alberta Red Cross Committee reports that in retrospect the Committee would recommend the inclusion of a psychologist and a doctor who specializes in rehabilitative medicine on the Committee. The Chairman of the Red Cross Committee felt that the differences in awards for similar injuries was small, in the order of $5-6,000. The Chairmans only concern has been the lack of recognition that the committee members received for the thousands of hours of volunteer time that went into working through the claims.

Insurance

In anticipation of disaster events the Insurance Bureau of Canada (IBC) has established Claims Emergency Response Plan (CERP) committees in all major urban centres. These committees are responsible for co-ordinating all the activites of insurance companies, brokers, and adjusters. In Edmonton the chairman of this committee is the regional manager of IBC. This committee functioned for the week following the tornado. The chairman handled all media relations. The CERP committee acted as an information resouce; putting consumers in touch with their agents and answering questions for those who had never filed an insurace claim before. They helped insurance companies organize to provide service at the Victims Assistance Centre. After the initial emergeny was over and the Victims Assistance Centre shut down the CREP committee disbanded and each insurance company began functioning independantly.

The Regional Manager of the IBC continued to be active. He attended community information sessions to address insurance issues and answer questions. The IBC worked with company executives to identify problem areas and trends in an attempt to set uniform and compasionate guidelines in dealing with claims. IBC worked directly with adjustors and claimants to mediate in disputes and get both parties talking together after communications had broken down.

The extent of residential damage was greatest in Evergreen and Fraser/Bannerman but damage occurred all over the city. There were

79,400 property claims of which $252,700,000 were paid out. Of these 43,300 were residential claims totaling $198,300,000. Due to the hail damage associated with the tornado weather system there were 36,100 automobile claims of which $54,400,000 were paid out.

Reflections

In the first four months after the tornado the IBC dealt with between six and seven thousand calls from consumers. Of these the Regional Manager estimates there were approximately 300 serious complaints. He described the majority of complaints as being related to consumer frustration in several areas. First was the frustration with adjustors not keeping appointments. The Regional Manager noted, to the consumers credit, that the majority of complaints occurred only after repeated apointments had been missed by adjustors. He attributes much of this problem to naive adjusters who were scheduling appointments according to the time they would normally take for routine claims. This was a gross underestimate and as a result many adjusters were not able to manage their workloads effectively, were chronically behind, and were at times overwhelmed with their assignments.

There were some problems with determining the amount and value of the property damaged or lost. Adjusters are trained to assess damage where there is some evidence of the claimants goods and lifestyle. For example after a fire there will still be the remenants of a 26 inch color television or a $5,000 stereo. The general quality of furniture and upkeep can be appraised. Many adjusters faced with nothing, at times not even a pile of rubble, were initially unsure as how to conduct the appraisal. The impact of the total devastation coupled with attempting to deal with claimants who were in a state of shock was stressful. Both claimant and adjuster had to attempt to visualize a home and all its contents without any reference points. This was often a painful experience for the claimant and a difficult process for the adjuster.

By far the greatest number of complaints came from those claimants who were attempting to deal with both insurance adjustors and contractors. Many complaints arose from the frustration of trying to coordinate communication between adjustors and contractors. Simply getting adjustors and contractors to find the time to talk together created significant delays. There were discrepancies between what work contractors claimed needed to be done and what the appraiser thought needed to be done. There were also discrepancies between the estimated cost for repairs and reconstruction and the actual costs claimed by contractors. There were discrepancies between what the adjustor and the claimant felt was damage as a result of the tornado and what was previous damage. Contractors then either didn't do the work or charged claimants directly for repairs.

The IBC Regional Manager identified significant differences in the nature and amount of insurance coverage in the Evergreen and Fraser/Bannerman communities. In Fraser/Bannerman there was little concern related to the adequacy of insurance coverage. He noted that claimants from Evergreen were more likely to be in difficult financial circumstances. In the event of a dispute with their insurace company Evergreen residents were unable to afford expensive court costs to appeal what they felt were unfair settlements. It was in these cases that IBC acted as an advocate in an attempt to push companies towards compassion and fairness. The IBC Regional Manager reported that it was difficult when some adjusters would not move from their position.

Another source of disappointment for many Evergreen residents surrounded the difference in mobile home insurance from that for houses. Many homes in Evergreen were 10 to 12 years old and had been bought at that time from previous owners. Of those homes that were insured many were underinsured with respect to replacement cost. To illustrate, if a mobile home had been purchased for $12,000 ten years ago, in todays market it would cost $20,000 to replace with a previously owned home and $40,000 to purchase new. Many home owners only had insurance coverage for what they originally paid years earlier and therefor did not have enough insurance to even replace their homes. Those who had taken out insurance to replace their homes at current market prices expected that they would be able to buy new mobile homes and were frustrated at having to accept previously owned homes that they did not think were equivalent quality to their lost home.

For those claimants in Evergreen that did not require total replacement the Regional Manager identified other frustrations. In Fraser/Bannerman there were 35 reputable contractors from which people could chose to have their work done. They could shop around for competing bids and if they were not satisfied with one contractor could switch to any number of others. In the Edmonton area the IBC Regional Manager reports there were only two companies experienced in mobile home repair. Claimants had little choice but to accept price estimates and if they were dissatisfied with the work there was only one alternative. IBC believed there were equal numbers of dissatisfied claimants changing from one company to another. There are also significant problems in attempting to repair mobile homes. They are constructed in such a way that they twist and bend easily. There were many problems associated with relevelling mobile homes and with leaks in roofs and windows. Lastly there were differences between the perceptions of mobile home owners, contractors and adjustors as to the amount of damage shifting had done to homes or how far out of alignment they were. It took a full year for insurance companies to process the majority of claims and as of March 1989 some claims were still outstanding or being appealed.

With respect to the effect this experience had on adjusters the Regional Manager knew from previous experience there would be stress and suggested company directors be sensitive to signs of burnout with their adjustors. The IBC can only make recommendations and he is not sure how many companies actually followed his sugestion. The Regional Manager reported that dealing with disaster claims was difficult professionally and personally for many adjusters, especially the younger ones. In an attempt to deal effectively with claims, many companies brought in additional adjusters from other parts of Canada. Adjusters who had worked with claimants from the Barrie Ontario tornado three years previously brought experience and provided guidance for others. Some adjustors who were inexperienced and not knowledgable about the Edmonton community were less effective.

CHAPTER VI. RESULTS SURVIVORS PERSPECTIVE

This chapter presents the results from the survey. It describes demographic characteristics of respondents, their experience of the event, their perceptions of programs and services and their recovery.

A. Respondent and Community Profiles

The following presents the demographics of the respondents in the two communities. There were 125 participants in the study, 77 from Evergreen and 48 from Fraser/Bannerman. Coincidentally, 77 were female and 48 male. The age differential for the two communities is presented in Table VI. 1.

Table VI. 1 Age Categories by Percentage of Completed Recovery and Community

	Community		Recovery
Age Categories	Evergreen (N=77)	* F/B (N=48)	Complete
24 or less	8%	2%	71%
25-39	59%	81%	61%
40-54	21%	15%	61%
55 or more	8%	1%	55%

*In this and all other tables F/B denotes Fraser Bannerman

In general, the Evergreen sample represented a broader age differential while Fraser/Bannerman was clustered in the 25-39 year range. The trend in the relationship between age and recovery would indicate that recovery slows with age. However, the smaller numbers in the older and younger age categories and the greater numbers of elderly from one community limits the generalizability of this trend.

Fraser/Bannerman was more homogeneous in its family structure than Evergreen. Ninety six percent of respondents from Fraser/Bannerman reported being married or living together and 89 percent were living with one or more children in the home. In Evergreen, 85 percent of respondents were married or living together and 67 percent had one or more children living in the home.

Both communities had a high rate of home ownership, 96 percent in Evergreen and 98 percent in Fraser/Bannerman which is much higher than the general Edmonton rate of 45 percent. Residents had lived in Evergreen longer than either Fraser/Bannnerman or Edmonton (Table VI. 2).

Table VI. 2 Length of Residency by Community and Edmonton Average

Length of Residency	Community		
	Evergreen (N=77)	F/B (N=48)	Edmonton Average
2 years or less	24	15	44
3-7 years	47	66	(3-5) 12
8 years or more	28	19	6+ 44

Fraser/Bannerman is a newer community, approximately 10 years old at the time of the tornado. Both communities had a lower number of new residents than the Edmonton average, indicating their stability.

In terms of education and employment, there were differences between the two communities. Fraser/Bannerman respondents and their spouses were more likely to have had technical school or university training and Evergreen respondents to have finished grade school or high school (Table VI. 3).

Table VI. 3 Level of Education by Community, Relation and Recovery

	Community				
	Evergreen		F/B		
	Relationship		Relationship		
Education Complete	Self	Spouse	Self	Spouse	Recovery Complete
Grade school	12%	1[illegible]%	4%	4%	54%
High School	67%	45%	36%	36%	58%
Tech. or College	19%	17%	36%	34%	56%
University	3%	4%	19%	17%	91%
Grad or Pro. Degree	0%	4%	0%	4%	100%
Refuse or N/A		16%		4%	

Respondents with a university education were most likely to report their recovery as being complete while those with a grade school education were least likely to report themselves as recovered.

Degree of education is reflected in employment patterns within the two communities. The Fraser/Bannerman sample included more professionals, businesspeople and skilled trades, whereas the Evergreen pattern included more semi and unskilled persons as well as those who are unemployed and retired (Tables VI. 4 and 5).

Table VI. 4 Employment Status by Community, Relation and Recovery

Employment Status	Community				
	Evergreen		F/B		
	Relationship		Relationship		
	Self	Spouse	Self	Spouse	Recovery Complete
Employed	71%	55%	68%	79%	63%
Unemployed	6%	7%	2%	0%	33%
Working in the home	15%	14%	23%	13%	65%
Student	0%	2%	2%	0%	100%
Retired	8%	5%	2%	0%	43%
N/A		18%		9%	

The unemployed and retired were least likely to report their recovery as being complete.

Table VI. 5 Type of Employment by Community, Relation and Recovery

	Community				
Type of Employment	Evergreen		F/B		
	Relationship				
	Self	Spouse	Self	Spouse	Recovery Complete
Professional	0%	7%	15%	16%	100%
Skilled Trade	13%	12%	13%	34%	75%
Business/sales	16%	13%	22%	24%	64%
Clerical/office	18%	15%	22%	7%	61%
Homemaker/student/ retired	26%	26%	22%	13%	55%
Unskilled Labor	27%	27%	7%	7%	46%

In summary, Fraser/Bannerman respondents were generally more educated, employed in higher skilled jobs, and more homogeneous in age and family composition than

Evergreen respondents. These conditions indicate a greater likelihood of recovery (Table VI. 6).

Table VI. 6 Recovery by Community

Stage of Recovery	Community	
	Evergreen	Fraser/Bannerman
Finished	53%	72%
In progress	41%	28%
Barely started	5%	0%

B. Impact

At the time the tornado struck, only 17 respondents reported having any warning. Ten were warned by friends and relatives over the telephone or by word of mouth and the rest reported a personal sighting. Only three heard a warning over the radio.

Fifty nine percent of Evergreen respondents and 42 percent of Fraser/Bannerman respondents reported being in the path of the tornado. Of those respondents who were not in the path 22 percent of Evergreen and 39 percent of Fraser/Bannerman had family members who were in the path.

One third of respondents directly in the tornado's path in Evergreen were alone or with children compared with one sixth in Fraser/Bannerman. In Evergreen, only one third of respondents felt they knew what to do to protect themselves as compared to almost two thirds in Fraser/Bannerman, and Evergreen respondents were more likely to have children to protect. This difference should be considered in the context of housing construction; the Evergreen residents had no basements and nowhere to go. In Evergreen, five of the respondents who were travelling out of the tornado's path returned home to their families.

Only 17 respondents had been in any type of disaster before. This included hurricanes, fire, floods, war, and a tornado. Of those who had experienced a disaster, only 10 felt they had learned anything to help them cope better with this event. As one respondent from Evergreen put it, "After being in Hurricane Hazel and being in a trailer I knew we didn't have much of a chance."

The only common concern expressed by respondents at this stage was the lack of warning and the desire for an improved warning system for the future.

C. Search and Rescue

In terms of search and rescue, very different patterns are noted in each community. In Fraser/Bannerman, 83 percent of respondents reported someone coming to check on them. These first responders were most frequently friends and neighbours closely followed by firefighters and police. In Evergreen, only 44 percent of respondents reported any contacts with rescuers, and first responders were most frequently family members and neighbours. Several respondents commented favorably on the search and rescue efforts of the youth.

"And I was trapped and these kids, they were just kids who lived in the park, came and dug me out and carried me to the Mall."

"We looked up and the sky was showing and we were so scared and suddenly this big guy comes, a fireman, and asks if we are OK and gets us out. I was never so glad to see anyone."

"The paramedics were just great, they fixed you up just fine right there on the spot."

When respondents were asked whether they recalled any outstanding help at the time of the tornado, 40 percent of respondents replied that they did. The most common recollections were of outstanding rescue efforts or offers of food, shelter and support. First responders such as police, fire and paramedics (10) (Braquets and numbers here and throughout the study indicate the frequency with which respondents commented) were identified with the same frequency as neighbours (10) in providing outstanding help. The Salvation Army (8) was also acknowledged as were the young people of Evergreen (4) and the Evergreen Mobile Home Park Manager (3).

The scope and intensity of the damage to Evergreen coupled with its relative geographic inaccessability, emphasize the value of the community response and volunteer efforts in search and rescue.

D. Evacuation

All Evergreen residents were evacuated which meant well over 600 families stayed with relatives, friends or in hotels. As mentioned earlier, no one went to the government shelter. Of those who were evacuated to hotels, many stayed only long enough to locate family members and contact relatives. In total, 83 percent of respondents who could not stay in their homes indicated they stayed with relatives and friends.

In the Evergreen evacuation, 82 percent of respondents reported they provided their own transportation. Considering the degree of devastation and the number of flat tires from the debris this is a significant amount of self transport.

In spite of the mass confusion, and the number of respondents who were separated from their families and the problems with telephone communications, families were reunited in a remarkably short time. Ninety six percent of Fraser/Bannerman and 77 percent of Evergreen respondents knew of the whereabouts of other family members within three hours of the tornado. About 10 percent of Evergreen respondents did not know for longer than 8 hours.

E. Immediate Sources of Concern

Evergreen respondents were more likely than those in Fraser/Bannerman to identify major hindrances in the immediate aftermath of the tornado. Immediate sources of concern for Evergreen respondents were most frequently related to diffficulties in gaining access to their property and what they perceived as premature bulldozing of their homes (11).

> "I worked late and when I got to the Park and saw the cars lined up and the police and realized what happened and my family was in there and a cop said I couldn't go in to find them, I damed near killed him. What would he have done if it was his family? Nobody knows how it feels until it happens to them".

> "Volunteer ladies from disaster service helped check through all the debris and they were the ones that found some people where we had given up. I told the bulldozer to go ahead and a lady said wait until they moved a fridge and when they did they found a person alive who might not have been".

> "I want the mayor to come and face us after he gave his crazy orders to bulldoze so quickly and why we

> couldn't get some of our stuff out and explain why he didn't call in the army who are trained for disasters".

In Fraser/Bannerman the most frequent comments related to gawkers and the initial lack of security (9). Although police reports did not note looting as an issue, respondents expressed concern in this area (7).

> "My husband wants someone to know that victims are in a state of shock after a disaster and they don't need intruders around. There were too many rude intruders into our area. Someone urinated near our back door. They were literally walking out with goods. Intruders insisted that they had the right to look at our property. How rude!"

Both communities were beginning to be frustrated with insurance agents (7), a trend that grew in the following weeks and months. Only a few respondents (3) indicated the absence of support from family, friends, and relatives.

F. Damage and Loss

Damage and loss experienced by respondents was assessed in terms of physical injuries and deaths, property damage, loss of personal possessions and vehicle damage. In the following sections these losses are detailed in relation to the community and recovery.

Injuries and Deaths

In the aftermath there were 14 dead and many hospitalized from Evergreen. Half of the respondents knew someone close to them whose injuries required a doctor's care or hospitalization. In Fraser/Bannerman, there were no deaths and no identified serious injuries. Approximately 13 percent of these knew someone whose injuries were minor, requiring treatment on the spot. At the time of the interviews six respondents from Evergreen were still under a doctor's care, four of whom felt their recovery was still in progress. Half of those who experienced some injury felt their recovery was complete whereas two thirds of those who did not experience injury reported the same. Almost as many respondents who were hospitalized or knew someone who was hospitalized reported themselves to be recovered as those who reported their recovery to be in progress (Table VI.7).

Table VI. 7 Number Known With Injuries by Recovery, Community and Damage

Number Known	Recovery		Community		Property Damage	
With Injury	Complete	Incomplete	Ever	F/B	Minor	Major
Treatment on the spot	9	13	18	4	4	18
Visited Dr.	7	17	21	3	1	23
Hospitalized	14	18	30	2	11	21

Just over two thirds of the Evergreen respondents knew someone who had died as compared to six percent of the Fraser/Bannerman respondents. Some thirty five Evergreen respondents acknowledged losing a friend and two lost a family member. Fraser/Bannerman respondents identified those who died as aquaintances. Interestingly, three of the four respondents who felt that their recovery was barely started had not experienced any injury but did know someone who had died which indicates a strong effect on recovery. Whereas two thirds of those who did not know someone who died were completely recovered, only half of those who did know someone who died described themselves as completely recovered.

At both an individual and community level, loss in terms of injuries and lives affected recovery. The effect of losing someone on respondents' recovery was experienced most strongly in Evergreen.

Property Damage

The extent and cost of damage was not equivalent in the two communities. In Evergreen, some respondents who required total replacement of their homes reported damage valued at what some Fraser/Bannerman repondents estimated costs for minor repairs (Table VI. 8).

Table VI. 8 Cost of Property Damage by Degree of Damage

	Degree of Damage	
Dollars	Number with Minor	Number with Major
Less than 5,000	21	0
5,500-25,000	19	17
26,000-200,000	1	52

For the purpose of this study damage catagories were collapsed into minor and major damage. Table VI. 9 indicates a trend towards a relationship between recovery, community and damage but damage is not a clear predictor of recovery.

Table VI. 9 Overall Recovery by Community and Property Damage

Overall Recovery	Community			
	Evergreen (N=76)		F/B (N=42)	
	Degree of Property Damage		Degree of Property Damage	
	Minor	Major	Minor	Major
Complete	18	22	12	18
	14.7	25.3	12.1	17.9
	23.7%	28.9%	28.6%	42.9%
In Progress	10	26	5	7
	13.3	22.7	4.9	7.1
	13.2%	34.2%	11.9%	16.7%
Column Total	28	48	17	25
	36.8%	63.2%	40.5%	59.5%
Missing N=7				
Chi Square Significance	0.18		1.00	
(Before Yates)	0.12		0.92	

A stronger relationship is found between community and degree of damage. Those living in Evergreen and experiencing major damage were significantly more likely to report their recovery as still being in progress (Table VI. 10)

Table VI. 10 Overall Recovery by
Property Damage and Community

	Property Damage			
Overall Recovery	Major Damage		Minor Damage	
	Evergreen	F/B	Evergreen	F/B
Complete	22	18	18	12
	26.3	13.7	18.7	11.3
	30.1%	24.7%	40.0%	26.7%
In Progress	26	7	10	5
	21.7	11.3	9.3	5.7
	35.6%	9.6%	22.2%	11.1%
Column Total	48	25	28	17
	65.8%	34.2%	62.2%	37.8%

Missing N=7

Chi Square Significance	0.059	0.913
Before Yates Correction	0.033	0.664

Loss of Personal Possessions

When asked about the loss of personal possessions, such as pictures, family heirlooms, diaries or other special items one third of respondents identified such losses, of whom 43 percent said they had lost everything. Interviewers noted this was an emotionally laden question for some respondents four of whom began to cry and another who said "What kind of stupid question is this! What do you think? I lost everything." Yet these losses did not appear to be directly related to recovery. The same number of those reporting complete recovery (22) had lost personal possessions as those reporting recovery still in progress (22).

The most commonly mentioned items lost were pictures. Family heirlooms, antiques and memorabilia were also mentioned. Only one third of respondents identified anything that helped with this type of loss. The replacement of pictures by family and friends or from negatives was most frequently mentioned. Several respondents identified the support they received from family and friends and the feeling of being lucky to be uninjured and alive as important.

Vehicle damage

Fifty six percent of respondents reported vehicle damage, 61 percent from Evergreen and 39 percent from Fraser/Bannerman. Of those with damage, 78 percent were left without transportation for less than five days. Almost three quarters of respondents had another vehicle. Respondents without another vehicle either borrowed a car or got rides with friends. In spite of the damage, the great majority of respondents had access to transportation.

G. Response to Immediate Media Coverage

The role of the media in disaster is a study in itself. For the purpose of the present research. The media are examined in light of the role they played in providing information on a number of topics and the impact this had on survivors and their recovery. The media focused on the tornado just after it struck, the following spring when smaller tornados were sighted around the province and again around the first anniversary . Respondents were asked to comment on their reactions to the coverage. Many (71) perceived it to have been well done.

"We paid close attention to the media. The more you talk about the tornado the easier it is to get it out of your system. We watched everything on TV."

"We videotaped everything. It was great."

Yet many (26) respondents reported they did not see any coverage. These respondents had suffered severe losses and indicated they were too busy or too upset to watch. Another group thought the coverage was too sensational and blown out of proportion (22), and others thought the reporting was inaccurate and that the truth was not told (7). Respondents who had contact with reporters commented on their pushiness and tastelessness (16). This was particularly a complaint of respondents who had experienced major damage, were struggling with injured family members, or had lost loved ones.

> "Radio interviewed me one hour after the tornado. They asked stupid questions such as, "Are you going to rebuild?"; "Are you planning to stay in this area?", it was irrelevant."

Those respondents who were out of town and watched the coverage on other television stations consistently reported comments such as, "It looked as if the whole city was blown away." Only three respondents commented on the lack of warning provided through the media.

H. Immediate Sources of Help

In determining the nature and scope of immediate sources of help, both informal and organized sources were explored. While considerable effort went into the planning and provision of formal organized services, they should be considered in relation to the informal sources of help available from friends, relatives, the workplace and other reference groups survivors are associated with.

Help From Friends and Relatives

When respondents were asked whether they received offers of help from family and friends 88 percent reported that they had (Table VI. 11). Both those who identified themselves as recovered and those who defined their recovery as being in progress reported offers of help 87 percent and 90 percent respectively. Greater differences were noted between communities. Seventy seven percent of Fraser/Bannerman respondents compared to 95 percent of Evergreen respondents reported offers of help.

There was a consistent if small trend for those who felt their recovery was still in progress to report more offers of help. The type of help most commonly offered included shelter, food, someone to talk to, and help with clean up. These offers were all likely to be accepted. The least likely forms of help to be offered were material things and money. Money was the least likely of all offers of help to be accepted. This was more evident in Fraser/Bannerman (23 percent) than in Evergreen (77 percent).

Table VI. 11 Type of Help Offered and Accepted by Recovery

Type of Help	Offered			Accepted		
	Total	RC	RI	Total	RC	RI
	Percentages			Percentages		
Shelter	89	85	98	82	79	89
Meals/Food	86	83	90	89	89	92
Someone to talk to	79	73	86	83	79	86
Clean up	77	74	78	82	82	81
Money	63	59	69	34	41	65
Information about help available	62	56	73	77	73	83
Child Care	59	49	77	83	90	74
Material things	56	50	62	67	61	76

*RC Denotes Recovery Complete
RI Denotes Recovery Incomplete

Sources of Help On Site and from the Workplace

When respondents were asked about outstanding sources of help besides friends and relations 78 percent identified someone during the clean-up phase. The most frequently cited source of help was the respondents' workplace. Respondents were most appreciative of employers who gave time off and allowed flexible work hours. Fellow employees and unions were identified as helping with clean-up, meals, financial aid, support, and material things. For those who were not supported at the workplace, disappointment was strong.

Comments on help from the Church of God in Christ-Mennonite (14) were also frequent and very positive, expressing appreciation for their "coming out of nowhere, working hard, and leaving without waiting for thanks or acknowledgment."

Those volunteer groups, individuals and commercial establishments which provided food were also identified. It is interesting how well remembered offers of food are even 15 months after the event (8) and what a great number contributed in this way.

> "The Sally Ann was super, always there with hot drinks and sandwiches."
>
> "A lady, I don't know who she was, walked in one day with a huge roast beef dinner for everyone-potatoes, gravy vegetables, the works. She said she just wanted to do something and then she left."
>
> "One night some guy with pizza, pop and donuts came through the neighbourhood, door to door. I don't know who he was-some pizza place-but it was great."

The City of Edmonton was also identified for their rapid response in restoring utilities and, in Fraser/Bannerman, for the provision of large garbage bins that facilitated clean-up activity (6). Some respondents also cited the support received from their church (6).

Victims Assistance Centre

The Centre provided registration and multiple services for survivors. It was in operation for eight days. Ninety two percent of respondents knew about the Centre. Of those few who were not aware of it (6) two thirds (4) reported they would not have used the Centre as they did not think they needed to go.

Respondents heard about the Centre from a variety of sources, the most common being word of mouth followed by television, radio and newspaper. Those who experienced severe damage were more than twice as likely to have heard about the Centre through word of mouth than any other source. This fits with the results on media coverage which indicated that those with serious damage did not attend to media coverage.

Ninety percent of respondents went to the Centre. Almost one quarter went without any knowledge of what was being offered there saying they were told they should go. Many respondents reported not functioning at their usual level at this time and feeling appreciative of having someplace where everything was together and needs were assessed.

> After a catastrophe like that you need everything together, your head dosen't work right. You can only think of one thing at a time. Like if someone says; "Go to the fridge and get eggs, milk and butter," you get the eggs and then your head is fried you can't remember what else. Just getting there and in the door is about what you can manage.

One somewhat lengthy example illustrates the state of mind of many of the respondents once they got to the Centre, and the importance of multiple services staffed by responsive workers.

> You know, everything you needed was there but you didn't know you needed it. We walked in there, and everyone was so compasionate, and they asked us questions and made up a list of the rooms we were to go to and so we went but we didn't know why we were there and I remember we would sit down at a table and I remember distinctly at the welfare table this guy asks, "How can I help you?" and I said "I don't know, they sent me here and told me to get money, and he said. "Are you on something?" This guy thought I was stoned or something and didn't realize I was in a state of shock and didn't know exactly why I was there and that I needed everything and whatever he gave me I would be grateful for, and if he didn't give it to me I would survive somehow. Then someone asked us if we needed long term accommodation and I said, "Oh no, what would I need that for?" I couldn't grasp it. I figured I was in a hotel and long term must be six months, a year and we would be all fixed up before then, and then someone gave me a shake and said, "Go back there and get one of those houses you need one of those, you can't stay in a hotel room with four children".

Fifty eight percent of respondents believed they needed the services provided at the Centre. Significantly, over two thirds of Evergreen respondents as compared to one third of Fraser/Bannerman respondents reported needing services. Interviewers recorded many comments, the great majority (82 percent) of which were positive. The most frequent comments remarked favorably on the inclusion of all services under one roof and on the convenience of location. Comments on the quality of service included: "good information", "well-organized", "excellent and caring people", "people really needed the help and direction". Some respondents indicated they did not think they would need services but discovered they did or regreted not using the counselling services (4).

Negative comments related primarily to the lack of help with insurance claims. A few commented (4) that the Centre could have been better advertized and that they did not get the help they needed.

> How can they expect people who don't know what to do, to go there and get help. Bring the help to them. Some people were even afraid to leave their homes.

Eighty seven percent of respondents believed the Centre was kept open long enough, and 84 percent got what they needed there. When asked whether the Centre should be opened again in the event of another disaster, 97 percent said yes.

Emergency Relief Services

Emergency Relief Services supplied material goods and support to survivors particularly in the month following the tornado. While most respondents (78 percent) knew of ERS only 17 respondents said they had gone there. Comments about the ERS (11) most frequently related to the caring expressed by volunteers. A few respondents felt ERS overstepped its authority with volunteers making unsolicited interventions or unwanted recommendations.

I. Relocation

As mentioned earlier, all Evergreen residents were relocated for a short period of time. For shorter time periods survivors were housed in hotels and later in town houses made available through Canadian Mortgage and Housing Corporation and Alberta Mortgage and Housing Corporation (Table VI. 12).

Table VI. 12 Relocation by Length of Time

Relocated to:	Number Relocated	Length of Stay in Days			
		2	3-7	10-21	22-75
Relatives	60	19	17	9	15
Hotels	31	5	14	6	6
Friends	23	5	8	4	6
		29 or less	30-90	90-150	
CMHC/AMHC	30	2	15	13	

Of those respondents who required major reconstruction or new homes, the majority from Evergreen were reestablished within weeks of the tornado. Those in Fraser/Bannerman lived in temporary accommodation much longer. Rebuilding a house was a lengthier process than buying another mobile home.

When respondents were asked to identify the difficulties or adjustments associated with living elsewhere, they most frequently identified the loss of familiar things and the lack of personal possessions (26). This was similar to the feeling that there was no "home to go home to" (11).

> You get tunnel vision-I need a home, and I need to be back in it and I need it right now, it's the only way I can cope with this. My whole life has been destroyed and I want it right back the way it was and I don't want to wait. I need that stability. It's because the safety of your home was taken away and if you don't have the safety of your home what the hell have you got? From the time you were a baby if you fell down you go home and mommy will take care of you, if a bad man is following you, you go home, your safe. I needed to know I had that safety and stability because you can't even begin to deal with whats happened until you have stability.

For those with young children, a great number of adjustments had to be made. Lack of baby furniture and notions, difficulties getting children to sleep and lack of laundry facilities were frequently mentioned (16). The stress of too much to do (12), living out of boxes (9) or in a mess (4), and moving frequently (3) was evident. Most respondents found it difficult to live with relatives (11) or adapt to others' routines (8), while a small number (2) felt these adjusments were easy.

> "You can't believe it, it was total confusion. We had stored stuff all over the place and couldn't remember where anything was. And the kids couldn't get to sleep in strange beds and we were all so tired all the time."

> "I just wanted us to be alone, but always the relatives were around."

> "Living with relatives was easy, we didn't realy need anything. We had to realize we were starting with less than when we got married. It was hard to adjust to that but we realized I could have been dead. We would rather adjust to having nothing than me dead."

J. Reconstruction

In describing the nature of the reconstruction and rebuilding experience, respondents from both communities were similar in their responses. By far the most frequent problems identified in both communities related to insurance companies (19) and contractors (15). The emotional stress was identified by some as "almost overwhelming at times" (14). The general difficulties of having to do a "lot of running around" and "living in the mess and confusion of construction" were also frequent (8).

> You put your life temporarily on hold and live out of suitcases. You change the focus of your life to concentrate on solving the problems at hand. Decisions had to be made quickly and without any information or facts. I wish you'd advise people not to do anything

until they've calmed down emotionally and can make informed decisions.

Some respondents' difficulties were compounded by lack of money and attempting to cope with physical injuries (6). While comments on difficulties were most freqent (68), respondents identified a few positives and some strengths gained from the experience (4). Two respondents felt cleaning up kept people busy and helped cope with feelings.

Thirty respondents stayed in government accommodations half of them for over three months. The majority of comments about accommodation came from Fraser/Bannerman respondents and most frequently related to frustrations experienced from living in smaller quarters. More specifically, these problems included: no double garage, no garage door opener, no single control water taps, no diswasher, no Bar-B-Que, no garden and the stigma of living in a welfare area. The nature of these comments reveal the standard of living Fraser/Bannerman respondents were previously used to.

Respondents were asked to describe their rebuilding and recovery experience on a scale from one to five, with one indicating that everything went wrong and five indicating it was trouble free. In order to determine whether perceptions changed over time, respondents were asked to rate their experience as they recalled it at the time and as they felt about it during the interviews. Respondents only marginally changed their perception of the experience over time with a slight tendancy to claim fewer things went wrong (Table VI. 13). Interestingly, Evergreen respondents were less likely to describe their experience as "everything went wrong."

Table VI. 13 Experience of Reconstruction by Community and Time

	Community			
Experience	Evergreen		Fraser/Bannerman	
Everything Went Wrong	At the Time	Now	At the Time	Now
1	18%	11%	12%	7%
2	11%	12%	21%	26%
3	20%	20%	17%	21%
4	24%	26%	24%	24%
5	27%	31%	26%	22%
TroubleFree				

Not surprisingly, those with major damage were more likely to report things going wrong and in retrospect to see those difficulties as more serious, almost as if they didn't realize how bad the situation was at the time (Table VI. 14).

Table VI. 14 Experience of Reconstruction by Damage and Time

Experience	Minor Damage		Major Damage	
Everything Went Wrong	Now	At the Time	Now	At the Time
1	4%	7%	21%	13%
2	11%	9%	19%	21%
3	20%	18%	20%	21%
4	27%	24%	24%	24%
5	38%	42%	17%	22%
Trouble Free				

The degree of damage was a greater indicator of things going wrong than community. Overall, those who felt their recovery was incomplete were almost twice as likely to feel that things went wrong (Table VI. 15).

Table VI. 15 Experience of Reconstruction
by Recovery and Time

Experience	Recovery Complete		Recovery Incomplete	
Everything went Wrong	At the Time	Now	At the Time	Now
1	6%	9%	15%	26%
2	14%	14%	22%	15%
3	19%	10%	24%	33%
4	23%	31%	28%	13%
5	39%	36%	11%	13%
Trouble Free				

K. Long Term Sources of Help

To enable people to cope with reconstruction and to promote their recovery, a number of programs and services were made available. These included outreach, public education, counselling, group support, advocacy, and insurance and financial aid programs. Respondents' perceptions of these types of services follow.

Outreach

As identified earlier, there were several groups that provided outreach services. Respondents most frequently identified the Edmonton Board of Health (78 percent) and Church of God in Christ-Mennonites (18 percent) as making a call to their home.

Edmonton Board of Health

The EBH made outreach contact on three occasions begining the week after the tornado, just before Christmas and the late spring. Respondents described the EBH as providing: reassurance that feelings were normal, information, moral support, counselling, a listening ear, someone to see how they were doing, advice on handling children's reactions, and referral for other help. There were differences between the two communities in responses reported. Fewer respondents in Evergreen recalled a visit (73 percent) than those in Fraser/Bannerman (87 percent). Yet there was almost no difference by degree of damage (80 percent for minor damage and 77 percent for severe damage).

Of respondents who recalled an EBH visit, 56 percent reported they needed the service including 36 percent of those with serious damage and 20 percent of those with minor damage. In Evergreen, 34 percent of respondents felt they needed the service as compared to 22 percent of Fraser/Bannerman respondents. Of the respondents who felt they needed the service many expressed appreciation for the support and comfort provided as well as for the flexibility of evening visits for working couples.

Several comments were made by respondents indicating they had more problems than they or their spouse were willing to acknowledge to the visitor the first time. They expressed regret that they hadn't been able to talk and would have appreciated more contact. Respondents who did not feel they needed the service reported being bothered by visitors "always coming around" and "always banging on the door." These findings create a dilemma for service providers between knowing when to increase efforts to reach those they feel are in need and when to back off.

Seventy nine perecent of respondents reported EBH visits as timely. Yet comments on the timing of the first round of visits were inconclusive. Some respondents who were not contacted early felt left out and some who were visited felt they were contacted too soon.

Fifty five percent of respondents felt the service was helpful, seven percent did not and 38 percent offered qualified responses. Those who felt the service was helpful were very positive in their comments, acknowledging the value of referrals and the quality of information and advice offered. The most common qualification respondents gave was that they didn't need the service but that it was nice to know it was there in case they did. A few concerns were expressed by respondents relating to: public health nurses' knowledge of mental health issues and being referred out of the community for further counselling as well as complaints about too much talk and not enough action.

When asked whether this service should be offered again in another disaster, 97 percent of respondents said yes.

Christian Public Service Church of God in Christ-Mennonite

Although the Mennonites did not formally describe their service as outreach, respondents did identify them as coming to their door. Respondents describe the Mennonites as providing assistance with moving, clean-up, repairs and construction. Twenty percent of those with severe damage and 16 percent with minor damage reported a visit from the Mennonites, mostly Evergreen respondents. For those who needed the service, it was consistently described as timely, very helpful and much appreciated. The most common comment from respondents who did not need the service was that they were glad it was there for those who did. Ninty eight percent of respondents thought it should be offered in the event of another disaster.

Other Outreach Activities

Other outreach activities were identified by respondents as being offered by a number of groups and agencies. These services collectively comprised 29 responses, too few to be commented on as programs but important enough for general review.

Respondents described the Christian Response Agency of the Christian Reformed Church as providing a gift of useful small household items and a Bible. They report being told about the church and being offered spiritual guidance and counselling. Ninety percent of respondents did not feel they needed this service. It is interesting to note that the Christian Response Agency reported offering advocacy and aid in filling out insurance forms but these services were not identified in the study sample.

Alberta Hospital patients gave poinsettas to Evergreen respondents at Christmas which they appreciated. The proximity of the hospital, its role in providing refuge at the time of the tornado, and the number of Evergreen residents employed there make it significant to the community. Catholic Social Services, a volunteer Catholic sister, Alberta Mental Health Stress Counsellors, and a teacher were identified as providing counselling in respondents' homes. Comments about these services were generally favorable and indicated appreciation for evening sessions offered in their homes. Respondents indicated all of these services should be offered in the event of another disaster.

Public Education and Information

Several strategies were used to provide information to survivors and citizens of Edmonton on a variety of disaster and recovery related topics. News and feature articles appeared in all forms of media for several weeks after the tornado, at Christmas, in the spring and at the anniversary. A number of brochures and information letters were distributed by various groups and agencies. Telephone information and referral lines were put in operation and a special page was included in the telephone book featuring information about tornados. Several community information nights were organized in both Evergreen and Fraser/Bannerman after the tornado and the following spring. A newsletter for service providers was produced four times in the following year. The next sections will detail the response to these initiatives.

Long Term Response to Media

Respondents were asked to recall whether they learned about certain types of information from the media and what types of media provided what kinds of information. Service providers had appeared on a number of radio and television shows and acted as consultants for feature newspaper articles throughout the year following the tornado. These results do not identify which programs or comprehensively review what the three media actually did, although the information asked for was provided to some extent by all three forms. It is interesting that television and print media were most commonly recalled.

In terms of the relationship between accessing information and recovery, respondents who felt completely recovered reported remembering media information 336 times as compared to 241 times for those whose recovery was still in progress.

Table VI. 16 Awareness of Type of Information by Type of Media

Information	Print	Radio	T.V.
Understanding how tornados develop	54	12	81
Knowing how to protect yourself in a tornado	49	13	58
Knowing natural emotional reactions after a disaster	49	9	36
Knowing how to make a family emergency plan	42	9	43
Knowing where to get help	39	28	50
Totals	233	71	268

Table VI. 17 Numbers Aware of Media Information by Recovery

	Recovery Complete	Recovery Incomplete
Print	133	103
Radio	42	31
T.V.	161	107
Totals	336	241

Telephone Book Tornado Information and Storm Warning

After the tornado, Edmonton Telephones included information on storm warnings and precautions to take protection in the event of a tornado in its 1988 telephone book. Only 43 percent of respondents knew about this information.

Brochures

A great number of brochures on tornado's, disasters, and recovery were made available by a number of groups and agencies. Of those shown to respondents the most frequently recalled were information sheets distributed by the EBH on coping with children's responses (Appendix J) and normal emotional reactions (60) and a brochure entitled "What is a Tornado?" distributed by Alberta Public Safety Services (52). Other popular brochures included, a brochure titled "Coping With a Major Personal Crisis" (46), a children's coloring book called "What is a Tornado?" (40) and a booklet entitled "Coping With Children's Reactions to Earthquakes and Other Disasters" (36). The emphasis on resources for helping children indicates the concern parents had for their well-being.

Interviewers noted that while some respondents were not aware of print information, many had large collections of materials. In general, respondents whose recovery was incomplete, who lived in Fraser/Bannerman, or who experienced minor damage were more aware of brochures (Table VI. 18).

Table VI. 18 Percent Aware of Brochures by Recovery, Location and Damage

	Recovery		Location		Damage	
	Complete	Incomplete	Evergreen	F/B	Minor	Major
Percent Aware of Brochures	74	86	76	83	84	75

However the usefulness of brochures must be considered with some caution.

> I picked up a copy of all the pieces of paper they had on the front desk, went home and stuck them in a drawer. Didn't read any of it, didn't do anything with it and continued to cry about my troubles.

Community Meetings

A number of community information meetings were held just after the tornado and again the following spring. In the summer and fall of 1987, meetings were organized by service providers in both Fraser/Bannerman and Evergreen to identify residents concerns, answer questions and offer information about programs and services available. Representatives from Canadian Insurance Bureau, Consumer and Corporate Affairs, a building supply company, a lawyer, an EBH public health nurse, a psychologist, a recreation leader, and in Evergreen a representative of the Park owners made presentations. The meetings were chaired by community members.

In Evergreen a meeting was also held to identify problems and discuss emotional adjustments. These meetings were held prior to the end of September.

In October, mounting frustration in Evergreen resulted in a meeting being organized by residents. Over 110 unresolved concerns were identified which a Victims Assistance Committee was established to address.

In the spring, residents in Evergreen after observing their own weather fears and those of their neighbours, organized a community information evening. A representative from Environment Canada explained how tornados form and what steps to take for protection. A community plan was developed recommending residents leave their homes for the ravine or safer shelter elsewhere when a warning siren is heard. Appendix K indicates the creativity with which the residents meeting was advertized.

Forty seven percent of respondents reported attending one or more meetings, 35 percent of Evergreen and 12 percent of Fraser/Bannerman. None of the respondents who reported their recovery as being barely started had attended any community meetings.

Residents' responses to the fall and spring community meetings differed. The meetings organized after the tornado were recalled with mixed reactions. Thirty two respondents from Evergreen and 10 from Fraser/Bannerman attended. It is difficult to sort out the responses as the atmosphere and intent of the information meetings and the advocacy meeting were quite different. Comments made were clearly favorable with regards to the quality of information (20) and in terms of increasing community support (7).

> The meeting was good. There is such a dearth of practical information. After it happens you don't know what to do. You need a believable source, some form of authority because there are so many rumors.

However some respondents said they felt the meetings were not appropriate, were too emotional, too angry, or a waste of time (22).

> I remember the meeting after the tornado and I remember there were people there telling us where to go for help. And I remember it was just too overwhelming. They didn't realize the state of shock that people were still in.

The spring meetings where the purpose was clearer were received favorably by 87 percent of the respondents. They commented positively on the quality of information provided, specifically information about reading weather patterns, taking steps for protection during storms and dangerous weather and packing emergency bags. Respondents also indicated the meetings offered a sense of reassurance that others were going through the same difficulties or experiencing the same feelings and promoted community support. Several respondents commented on being told by the weather expert that tornados do not strike at night. The following week a tornado struck a central Alberta community at three a.m. A small number of comments (3) reflected some disappointment that the meetings did not help in coping with fears and provided no real answers. Two respondents expressed concerns about the responsiveness of service providers to survivor's needs for information at that time.

> I hounded them to do something in the spring. People were leaving the park and freaking out. I figured we can't live like this forever. They finally organized something and then didn't let a lot of people know. We had to do it all ourselves with word of mouth.

Support groups

About one quarter of the respondents reported participating in some form of community support group. Seventy three percent were from Evergreen and 27 percent from Fraser/Bannerman (41 percent were from minor and 59 percent from seriously damaged homes). Several different support groups were identified, none of which were mentioned often enough to make recommendations on any specific group or program. Groups most frequently identified included the pre-teen and teen support programs, the Fraser support groups, the Evergreen support group, informal self help groups, and a community church group. However, some general comments can be made on the basis of the collective responses which may be useful.

The majority of respondents heard about the groups through word of mouth or through referral by a helper. The next most common method was through community newsletters and pamphlets left in respondents' mailboxes followed by newspapers, television and radio. Respondents were as likely to contact the service provider as vice versa, indicating the value of outreach for group leaders in gaining the participation of respondents. Seventy five percent of respondents indicated they had some knowledge of the pupose of the programs prior to participating.

Satisfaction with support programs was reported at between 73 and 85 percent. Comments on the usefulness of support groups tended to reflect on the skill (or lack of it) of the group leader, the timing of the group process and the intensity of participants' responses. There was little uniformity in participants' comments--some were very positive especially for the pre-teen and teen groups, while others expressed concern or caution about group members being monopolized or overwhelmed by others experiences'. Fifty percent of respondents wanted group programs offered in the event of another disaster. While only four percent did not think support groups should be offered again 46 percent had some caveat or conditional concern about groups. Comments included suggestions such as providing more professional leaders, planning for better organization, offering programs sooner, and providing more practical suggestions and information.

Counselling

The total number of survivors who sought and received counselling is not available. The EBH reports that of the 800 personal contacts they recorded, approximately 25 percent were identified as requiring additional contact before the next scheduled visit, meaning some form of follow up or counselling. While the EBH made over 300 referrals, the vast majority were for services other than counselling. Complete statistics are not available on all referrals, however the EBH identified 32 families who were referred to Stress Counsellors and approximately 10 families who were referred to Catholic Social Services.

When respondents were asked whether they had sought out couselling or help, 29 percent of Evergreen respondents and 22 percent of Fraser/Bannerman respondents indicated they had. The Stress Counsellors and other professional counsellors were sought out the most frequently (30), followed by doctors (15) and church ministers (6). Of those who sought counselling on their own the great majority (89 percent) found it helpful. Half of those who sought counselling reported their recovery as being complete.

Respondents provided some useful reflections on the importance of timing in relation to counselling.

> "They should take care of practical thing first before so much emphasis on counselling. Most people have never had anything like this happen before and they were in such a state of shock they didn't know what to do first. There should be someone to tell you what thing to do and in what order, like protect your property, call your insurance agent."

> "They kept saying, 'Go to a counsellor,' but I thought 'What do you mean, go to a counsellor? I need a house, I need furniture, I need clothes, I need my kids in school, I need my work, I need...never mind a counsellor. I don't need a counsellor.' I mean I knew I needed a counsellor but I didn't have time--I needed other stuff first."

> "I needed help with my son. When I called they said they could fit me in in maybe two weeks or three weeks, but the kid wasn't reacting two to three weeks down the road, he was reacting now, and he was flipping out. You need help when you're in that state."

Respondents also provided some insight into the process of counselling.

> "It's really important that services be available for people who heal at different rates and need them at different times."

> "My first counsellor was pregnant. As if I'm supposed to get into it with her when I know she's going on maternity leave and she's also quite a bit so I know she won't be around long, and I know it's not good for her to have the stress and everything of all our tales you know."

> "A disaster can often bring old scars out. People should be aware of old emotional scars surfacing as a result of the immediate disaster."

Advocacy

As mentioned earlier, several groups and agencies reported doing advocacy, yet respondents did not identify any agency as doing activities that would be described as advocacy. At times a friend's or relative's activities could be described as advocacy but the Victims Assistance Committee, with some support from their elected Provincial Government Representative, was the main actor in this area. Ninety three percent of respondents indicated they were aware of the committee's activities which revealed the high profile of this group. Yet comments about the committee were infrequent and mixed. Some were strong in their support.

> You definitely need one after any disaster because they were the only ones that lumped every problem together, because the government agencies wouldn't come out here because: A) they didn't have the manpower; B) they didn't have the money to spend and C) no time. Well big deal, I didn't have time to get hit either.

Others suggested it had split the community over the planning of the anniversary ceremonies and some felt it championed those who did not deserve it.

Some members of the committee described their participation as healing, giving them a way of contributing and making some meaning of the event.

Overall Awareness of Services

In order to assess respondent's awareness of services, they were first asked whether there were services they knew about but did not use--87 percent replied that there were. Of those twice as many respondents who experienced severe damage knew of services they did not feel they needed.

Respondents were then presented with a description of the services offered and asked to indicate those they were not aware of. Finally, they were asked to identify services they may have used if they had known about them. The following Table VI. 19 presents the results.

Table VI. 19 Type of Service by Knowledge and Use

Service		Didn't Know	Would Have Used
Telephone referral	CAC	45	15
	Aid	37	14
Christian Relief			
Mennonites		32	6
Christian Reform Outreach		46	6
Salvation Army		24	6
Support Group		24	5
Other counselling		33	5
Stress Counselling		16	2
Emergency Relief		9	4
Victims Ass. Com.		7	4
EBH Outreach		2	2

Of interest is the number who would have used a telephone information and referral service if they had known about it. The telephone referral services were the least known and likely the greatest potential for use. The great number of respondents who knew about the services of EBH, the Victims Assistance Committee and Emergency Relief Services is also of interest, particularly since two out of three of these services are volunteer and emergent.

When respondents were asked for suggestions as to how services might have been made more visible and accessible, 35 percent did not know or thought enough was done in this area, "if people wanted service they could find it." Interestingly, this type of response was more likely from Evergreen respondents (47 percent) than Fraser/Bannerman respondents (30 percent).

The most common suggestion offered was to make greater use of the media (38 percent) followed by word of mouth, messages in mailboxes, community meetings and face to face contact (20 percent). Results in other sections dealing with how people become aware of and participate in programs and services would support these comments. Lastly, 10 percent suggested some form of central information and referral service.

When asked if there was anything else that could have been done for survivors that was not provided 47 percent said nothing or more than enough was done. The majority of recommendations identified the need for better warning and actions to be taken during the immediate aftermath and clean-up. Specific recommendations included making better use of communications, and developing a more effective method of checking on people. There were several comments suggesting the use of the military for control and security and to save money. Many Evergreen respondents wanted to make sure there would be better access to property and no premature bulldozing. A number of single suggestions were made which included advising survivors not to make any decisions until they had settled down, providing more effective communication of information and practical advice, offering more informal coffee table support groups, assigning a victim advocate to each family for one year, and addressing the need for spiritual guidance.

L. Insurance and Financial Aid

There were three primary sources of financial compensation possible for survivors--personal insurance, aid from the Alberta Government, and assistance from the Red Cross.

Insurance

While all respondents from Fraser/Bannerman had some form of insurance, five respondents from Evergreen did not. Over 40 percent of Evergreen survivors and 29 percent of Fraser/Bannerman survivors reported they were not aware of what their insurance covered.

Survivors in both communities said they had not read the fine print and were not sure whether tornado damage was included in their coverage. In Evergreen, respondents most frequently were not aware of replacement costs, depreciation, or the need for extra coverage for outbuildings and additions.

There were 23 respondents who commented positively about their insurance, saying either they had just renewed their policy or they knew they had good coverage. Two thirds of those who were completely recovered knew what their insurance policy covered, whereas 49 percent of those whose recovery was incomplete described themselves the same way.

Some differences are evident between the two communities in both the processing of and satisfaction with insurance claims (Table VI. 20).

Table VI. 20 Perceived Fairness of Insurance by Recovery, Community and Damage

	Recovery		Community		Damage	
Fairness of Insurance	Complete	Incomplete	Evergreen	F/B	Minor	Major
Very Fairly	66%	58%	57%	69%	65%	60%
Somewhat Fairly	23%	27%	28%	19%	23%	26%
Somewhat Unfairly	6%	6%	4%	10%	8%	6%
Very Unfairly	5%	10%	10%	2%	5%	9%

Respondents who described themselves as completely recovered perceived the settlement of their insurance claims to be slightly more fair than those whose recovery was still in progress, however the difference is small. Although 69 percent of Fraser/Bannerman respondents thought their insurance claims were dealt with very fairly only 57 percent of Evergreen respondents agreed. About 10 percent of Evergreen respondents felt their claims were handled very unfairly as compared to two percent of Fraser/Bannerman.

Satisfaction with the time taken to process claims was similar in both communities except that Evergreen respondents were more likely to think their claims were settled prematurely (Table VI. 21). Interestingly, almost three quarters of those who described their recovery as incomplete felt their insurance was processed at about the right speed as compared to a little over half of those who described their recovery as complete. Those with minor damage and those from Fraser/Bannerman were more likely to report their claims as being processed too slowly.

Table VI. 21 Processing of Insurance Claims by Recovery, Community and Damage

	Recovery		Community		Damage	
Process of Insurance	Incomplete	Complete	Evergreen	F/B	Minor	Major
Too Quickly	14%	12%	18%	7%	10%	16%
About Right	57%	73%	62%	65%	60%	65%
Too Slowly	29%	16%	21%	29%	30%	20%

The overall satisfaction with claims left almost as many respondents indicating they got more than expected as those who felt they did not get enough (Table VI. 22).

Table VI. 22 Satisfaction with Insurance Claim
by Recovery, Community and Damage

	Recovery		Community		Damage	
Satisfaction with Replacement	Complete	Incomplete	Evergreen	F/B	Minor	Major
More than expected	22%	15%	15%	26%	20%	19%
About right	59%	58%	57%	60%	65%	54%
Not Enough	20%	27%	28%	14%	15%	27%

Most important are the differences in the two communities, which were almost opposite. Fraser/Bannerman respondents were almost twice as likely to think they got more than expected and Evergreen respondents were twice as likely to think they did not get enough.

Satisfaction with insurance claims was not directly related to respondents reported recovery. Although those who report their recovery as incomplete also reported less satisfaction with insurance the differences were not as great as those between communities and degree of damage.

It is of interest to note the differences in the two communities with respect to changes respondents subsequently made regarding insurance. Over 50 percent of those who felt their recovery was in progress made changes in their insurance policies while only one quarter of those who felt their recovery was complete did so. Forty five percent of Evergreen respondents made insurance changes in contrast to only 25 percent of Fraser/Bannerman respondents. Changes were most frequently identified as increasing coverage or switching companies. Three respondents reported still not having insurance as they were unable to afford it.

Although over half of respondents felt satisfied with their insurance claims a large number was dissatisfied, the majority of whom lived in Evergreen.

Vehicle Insurance

While three quarters of Fraser/Bannerman respondents were satisfied with the repair or replacement of their vehicles only a little over one half of Evergreen respondents were satisfied (Table VI. 23).

Table VI. 23 Satisfaction With Repair or Replacement by Community

Repair or Replacement	Evergreen	Fraser/Bannerman
Satisfactory	57%	75%
Unsatisfactory	33%	18%
Not replaced or repaired	10%	7%

Alberta Government Aid

Of the respondents who knew about the Alberta Government aid, 51 percent applied (60 percent from Evergreen and 38 percent from Fraser/Bannerman). The following tables will provide some indication of satisfaction with the program.

One hundred percent of Fraser/Bannerman respondents thought the government had handled their applications for aid very fairly or somewhat fairly compared with 80 percent of Evergreen respondents (Table VI. 24).

Table VI. 24 Perceived Fairness of Government Aid by Community and Recovery

	Community		Recovery	
Fairness	Evergreen	F/B	Complete	Incomplete
Very Fairly	67%	83%	78%	66%
Somewhat Fairly	13%	17%	13%	16%
Somewhat Unfairly	11%	0%	9%	6%
Very Unfairly	9%	0%	0%	12%

These differences were more pronounced than those according to recovery.

Differences in community were reflected in respondents' satisfaction with the speed in which applications were processed. Some 94 percent of Fraser/Bannerman respondents felt their applications were processed in about the right amount of time and 74 percent of Evergreen respondents agreed.

The greatest differences in terms of overall satisfaction with government aid were in community where again Fraser/Bannerman respondents were twice as likely to report they got more than expected and Evergreen respondents were more than twice as likely to report they got less than expected (Table VI. 25).

Table VI. 25 Satisfaction with Government Aid
by Community and Recovery

	Recovery		Community	
Satisfaction	Complete	Incomplete	Evergreen	F/B
More Than Expected	16%	22%	22%	11%
About Right	69%	47%	50%	78%
Not Enough	16%	31%	28%	11%

Those whose recovery was incomplete were twice as likely as those whose recovery was complete to feel they did not get enough aid from the provincial government. At the same time, more of those respondents whose recovery was incomplete felt they got more than they expected than those respondents who reported their recovery as complete.

In presenting the results on government aid, it should be noted that many respondents who were eligible to apply did not. It was surprising the number of respondents who were eligible to make an application for government aid but indicated to interviewers that they were unaware of the program (7).

> There should be more publicity by the government on the type of help they were offering. We only heard about government grants by word of mouth. It's not fair to those who weren't lucky enough to hear about it from someone else.

Red Cross

Fifty seven percent of respondents made an application for Red Cross assistance. One third of those living in seriously damaged homes (and thus eligible) did not make an application. For the respondents who did apply, the following trends are identified.

Again, 100 percent of Fraser/Bannerman respondents felt their applications were dealt with fairly or somewhat fairly compared to 78 percent of Evergreen respondents (Table VI. 26). Almost one quarter of Evergreen respondents felt they were dealt with somewhat or very unfairly.

Table VI. 26 Perceived Fairness of Red Cross Aid by Community and Recovery

Fairness	Community		Recovery	
	Evergreen (N=44)	F/B (N=23)	Complete	Incomplete
Very Fairly	64%	83%	78%	62%
Somewhat Fairly	14%	9%	11%	13%
Somewhat Unfairly	7%	0%	3%	6%
Very Unfairly	16%	9%	8%	20%

Over 50 percent of Evergreen respondents also thought their applications were dealt with too quickly or too slowly, whereas two thirds of Fraser/Bannerman respondents thought theirs were handled at about the right speed (Table VI. 27). The speed with which claims were processed did not appear to be relevant to the process of recovery.

Table VI. 27 Processing of Red Cross Applications
by Community and Recovery

	Community		Recovery	
Process	Evergreen	F/B	Complete	Incomplete
Too Quickly	41%	28%	38%	24%
About Right	47%	62%	51%	69%
Too Slowly	12%	10%	11%	7%

Although most respondents were satisfied with the financial assistance and compensation they received, from Insurance, Government Aid and Red Cross Assistance, there was a consistent pattern of greater dissatisfaction in Evergreen. The economic implications are described in the following section.

M. Dimensions of Recovery

Financial Recovery

To assess overall financial recovery respondents were asked whether, as a result of the tornado, they felt their financial situation had stayed the same, improved or become worse. While the majority of respondents felt their situation had remained the same, this was more likely for those in Fraser/Bannerman and not unexpectedly, for those with minor damage (Table VI. 28). Respondents reported financial situations does not appear to be predictably linked to overall recovery.

Table VI. 28 Financial Situation by
Recovery, Community and Damage

Financial Situation	Recovery		Community		Damage	
	Complete	Incomplete	Evergreen	F/B	Minor	Major
Improved	5%	10%	9%	4%	4%	10%
The Same	75%	61%	60%	85%	87%	56%
Is Worse	20%	29%	31%	11%	9%	34%

Respondents' comments illustrate the reasons for some of the changes they experienced.

> "Physically we have a new house and furnishings--there are sentimental things that weren't replaced. Although we have new furniture that does not need replacement for a long time, monetarily we don't have any more money in the bank."

> "It's hard to see other people with things you once had, like I saw a person with a coat exactly like I had. I'm tired of getting everything new."

> "Our living conditions are now better, I have a bigger home but finances are the same or worse because I have a mortgage to pay now and my pay check is still the same."

Community Effects

In order to assess the changes, if any, in community relationships respondents were requested to identify how many neighbours they knew by name before and one year after the tornado (Table VI. 29).

Table VI. 29 Percentage of Neighbours Known by Community, Recovery and Time

Number of Neighbours Known	Recovery				Community			
	Complete		Incomplete		Evergreen		F/B	
	Time		Time		Time		Time	
	Before	Now	Before	Now	Before	Now	Before	Now
None	1	1	6	4	4	4	2	0
Almost none	25	18	33	20	32	24	21	11
Less than half	30	29	31	20	28	32	34	15
About half	18	9	8	6	9	13	23	21
More than half	9	20	6	14	8	12	9	28
Almost All	15	18	14	10	17	12	11	21
All	1	4	2	4	3	4	0	4

Knowing neighbours had a positive effect on recovery. Of those who report their recovery as being complete 51 percent knew at least half of their neighbours by name. In contrast only 34 percent of those whose recovery was still in progress knew half or more. The greatest positive effect was evident in Fraser/Bannerman. Prior to the event, 47 percent of respondents knew half or more of their neighbours and afterwards three quarters of respondents reported knowing half or more of their neighbours. Evergreen also reported increases in the numbers of neighbours known but both the numbers and the differences between times were smaller. It should be noted that in Fraser/Bannerman respondents rebuilt on the same lots as their previous homes were. Many respondents who stayed in Evergreen were relocated to other parts of the community away from old friends and neighbours. Although they stayed in the same community it was somewhat akin to moving across town. The areas of Evergreen that were demolished were redesigned to hold larger trailers. Even a year and one half later many of the new lots were empty and new homes existed in relative isolation.

Quality of Life Indicators

When respondents were asked whether they continued to have the same interest in activities that were important to them before the tornado, those most likely to reply in the affirmative experienced minimum damage and lived in Fraser/Bannerman (Table VI. 30). Ninety percent of those who described their recovery as complete had the same interest in activities, whereas only 63 percent of those whose recovery was incomplete had the same interest.

Table VI. 30 Interest in Activities by Recovery, Community and Damage

	Recovery		Community		Damage	
	Complete	Incomplete	Evergreen	F/B	Minor	Major
Interest in Activities	90%	63%	74%	87%	93%	69%

For those who are less interested the most common reasons given (15) were feeling listless, less motivated, depressed, or anxious about going outside. Some respondents indicated that change was positive and came as a result of changed priorities and values (4) with regard to their families.

When asked whether there were any changes in the amount of time spent with family, respondents answers showed little difference between communities (Table VI. 31). Eighty percent of respondents who experienced minimum damage reported no difference in time spent with family and 20 percent reported spending more time together. Interestingly, none of the minimum damage group indicated spending less time. Respondents who experienced major damage were equally likely (19 percent) to say they spent more or less time with their families. The effect of time spent with family on recovery is interesting. Almost twice as many respondents whose recovery was incomplete described spending more time with family members than those who felt their recovery was complete. Yet more of those whose recovery was incomplete also described themselves as spending less time with their families.

Table VI. 31 Time With Family by Recovey, Community and Damage

	Recovery		Community		Damage	
Time With Family	Complete	Incomplete	Evergreen	F/B	Minor	Major
Less	5%	21%	12%	11%	0%	19%
About the Same	80%	52%	68%	72%	82%	61%
More	15%	27%	21%	17%	18%	19%

Relationship Effects With Friends, Relatives and Family

There were some differences between communities and between damage conditions with respect to relations with friends, relatives and family. Overall, respondents in both communities were more likely to consider that relationships had stayed the same or grown closer over the year following the tornado. Evergreen respondents were more likely than those in Fraser/Bannerman to feel relationships had grown further apart. Even more interesting are the differences according to damage. It would appear that a little damage brings people closer together but a lot of damage creates more difficulties. As one respondent noted:

> The initial support from friends and relatives is good but it doesn't last long. There isn't enough known about the long term effects on people of a thing like this.

Relations with Friends

As seen in Table VI. 32 respondents who report their recovery as still in progress were much more likely to report changes in their relationships with friends.

Table VI. 32 Friendship Changes by Recovery, Community and Damage

	Recovery		Community		Damage	
Friends	Complete	Incomplete	Evergeen	F/B	Minor	Major
Become Closer	18%	26%	23%	19%	33%	15%
Remained the Same	74%	41%	52%	77%	60%	60%
Farther Apart	7%	12%	17%	0%	4%	15%
Some Closer/Father	1%	14%	8%	4%	2%	10%

While those in Fraser/Bannerman were more likely to report changes as becomming closer to their friends changes in Evergreen were mixed. Respondents' comments illustrated the differences identified in relationships. When friends became closer, the experience was often described as becomming more like family, spending more time together and sharing a common bond. When respondents described friendships as being strengthened, they were usually with people who had been through the same experience.

Comments describing reasons for growing further apart were offered more frequently. Explanations included feeling that friends did not understand what they felt like or what the experience had meant; friends were jealous of new things. Respondents who had moved or were working cited distance and a lack of time as reasons.

Relations with Relatives

Although relations with relatives tended to remain the same, respondents were more likely to indicate they had become closer to relatives rather than farther apart (Table VI. 33). Most cited reasons such as having more contact and being more open with each other. For those who felt farther apart, the feelings were intense. The most frequent reasons given for the increased distance were that relatives had pulled away or were jealous of new things. Some respondents also indicated they had experienced a change in priorities and in the way they felt about themselves which resulted in a change in the nature of their relations with others. They became closer to some relatives and did not regret growing farther apart from others.

Table VI. 33 Relations with Relatives by Recovery, Community and Damage

	Recovery		Community		Damage	
Relations with Relatives	Complete	Incomplete	Evergreen	F/B	Minor	Major
Become Closer	16%	20%	21%	13%	18%	17%
Remained the Same	81%	63%	71%	80%	80%	69%
Farther Apart	0%	8%	4%	2%	0%	5%
Some Closer/Farther	3%	8%	5%	4%	2%	7%

Relations With Family

> "When the rubber hits the road you figure out whats important and its not all your material things, it's family."

The majority of respondents indicated that family relations stayed the same or improved (Table VI. 34). Reasons cited for becoming closer included feeling more appreciative of each other, being more open, talking more, being more sensitive to each others feelings, being more patient and being more protective. Realizing how close death had been and how afaid respondents were of losing loved ones was often profound. On the other hand the experience for some escallated a deteriorating relationship. Respondents who were alone or felt unsupported reported experiencing these feelings sharply. Evergreen respondents were much more likely to experience difficulties in family relations than Fraser/Bannerman respondents. Interestingly, none of the respondents identified the stresses of the experience as affecting family relations.

Table VI. 34 Family Relations by Recovery, Community and Damage

	Recovery		Community		Damage	
Family	Complete	Incomplete	Evergreen	F/B	Minor	Major
Became Closer	24%	31%	27%	26%	20%	29%
Remained the Same	75%	44%	59%	70%	76%	56%
Farther Apart	1%	9%	14%	2%	2%	7%
Some Closer/Farther	0%	15%	5%	4%	2%	8%

Although eight respondents indicated a change in marital status since the tornado, only one attributed it to the effect of the experience.

Emotional Recovery

Several different indicators of emotional response and recovery were used. The process of recovery questions were recorded in two time periods in an attempt to gain some indication of past and present experience. Questions were chosen or adapted from those used in other studies and reflected the types of emotional responses often associated with disasters.

Therapists have indicated that often behavior at the time of the event has an impact on recovery and respondents were asked how they felt about their activities at the time of the tornado. The results identified some interesting responses (Table VI. 35).

Table VI. 35 Self Perception of Behavior by Recovery, Community and Damage

Self Perception of Own Behavior	Recovery		Community		Damage	
	Complete	Incomplete	Evergreen	F/B	Minor	Major
Managed as Well as Anybody Could	84%	60%	68%	83%	73%	74%
Did Much More Than Expected	8%	30%	19%	11%	16%	18%
Let Others Down	0%	3%	12%	4%	11%	6%
Let Yourself Down	8%	8%	1%	2%	0%	3%

Most respondents felt they managed as well as anybody could have, particularly respondents in Fraser/Bannerman. Of respondents who describe their recovery as being complete, 84 percent felt they had managed as well as anybody could while 60 percent of those whose recovery was incomplete felt so. Interestingly, 30 percent of those who felt their recovery was incomplete also felt that they did much more than they expected. It would seem that outstanding effort results in a longer period of recovery. The greater impact in Evergreen seemed to provide more scope for respondents to feel they did more than they expected or to feel they let others down. There was no difference in respondents description of their behavior in relation to degree of damage.

Individual definitions of what is "about what anyone would do" were very reflective of personal values. Some respondents identified behaviors that would be considered outstanding acts of bravery or commitment to rescue, as nothing out of the ordinary. When respondents felt they did more than expected it was most frequently attributed to their ability to think, their actions to protect themselves or their loved ones and their search and rescue activities. When respondents felt badly about letting others down it was most frequently associated with not knowing what to do, not being available to loved ones, not participating in search and rescue activities or having left the community.

When respondents were asked whether fears of the tornado had been on their mind in the past year, between 75 and 96 percent reported either "sometimes" or "often" (Table VI. 36). Respondents most likely to experience fears were not surprisingly those from Evergreen and those who suffered major damage. Most commonly identified fears were associated with the weather such as wind (39), dark clouds (15), thunderstorms (17), rainy warm weather conditions (42) and storm warnings (13) . Some respondents reported they were distressed because they felt anxiety and fear unexpectedly and for no apparent reason (14). Other fears included being alone or away from loved ones (3), facing the night (3), hearing reports of other disasters (2) and seeing landmarks or recalling friends and relatives that were injured or had died (2).

Table VI. 36 Frequency of Fears by Recovery, Community and Damage

	Recovery		Community		Damage	
Frequency of Fears	Complete	Incomplete	Evergreen	F/B	Minor	Major
Often	16%	49%	35%	19%	22%	34%
Sometimes	59%	47%	51%	60%	53%	52%
Never	25%	4%	14%	21%	24%	14%

When respondents were asked whether they felt numb or emotionally unfeeling in the months just after the tornado or at the time of the interview, a marked decrease over time was evident (Table VI. 37). Those who report their recovery as incomplete were most likely to report these feelings as were those with major damage.

Table VI. 37 Emotional Numbness by Recovery, Community, Damage and Time

	Recovery				Community				Damage			
Frequency	Complete		Incomplete		Evergreen		F/B		Minor		Major	
	Time		Time		Time		Time		Time		Time	
	Befor	Now	Befor	Now	Befor	Now	Befor	Now	Befor	Now	Befor	Now
Often	28	0	43	12	40	6	23	2	31	0	34	8
Some	34	20	37	41	26	32	51	21	29	20	38	33
Never	38	80	20	47	35	62	26	77	40	80	27	59

By refering to Table VI. 38 it is evident that respondents were more likely to report feeling jumpy, edgy, or more emotional than feeling numb. With both responses the greatest differences appear over time.

Table VI. 38 Increased Emotional Response by Recovery, Community, Damage and Time

Frequency	Recovery				Community				Damage			
	Complete		Incomplete		Evergreen		F/B		Minor		Major	
	Befor	Now	Befor	Now	Befor	Now	Befor	Now	Befor	Now	Befor	Now
Often	30	0	63	14	49	8	34	2	38	0	45	10
Some	38	9	29	59	24	30	51	28	24	29	41	31
Never	32	91	8	27	27	62	15	70	38	71	14	59

Some comments illustrate respondents emotional reactions.

> "My feelings--my whole life and attitude changed. I was very depressed. Everything bothered me, I got upset and cried over little things. No support from my husband. It didn't affect him, I don't know why."

> "I lost the will to live I turned to the priest for support. God is the only one to help nothing else did."

> "I used to be pretty easy going, now the littlest thing can set me off."

When respondents were asked whether they had dreams about the tornado either before New Years or at the time of the interviews, the most evident difference was again over time (Table VI. 39). At the time of the interviews no respondents had frequent dreams about the tornado and between 71 and 84 percent of respondents never dreamed about the tornado (up from 45 to 69 percent respectively).

Table VI. 39 Dreams of the Tornado by
Recovery, Damage, Community and Time

Frequency	Recovery				Community				Damage			
	Complete		Incomplete		Evergreen		F/B		Minor		Major	
	Befor	Now	Befor	Now	Befor	Now	Befor	Now	Befor	Now	Befor	Now
Often	8	0	10	0	6	0	13	0	2	0	12	0
Some	26	12	53	41	41	27	30	17	29	16	43	29
Never	66	88	37	59	53	73	57	83	69	84	45	71

A more general concern were disturbances in sleep (Table VI. 40). Again the difference over time was significant in all groups with those from Fraser/Bannerman and those with minor damage being the least likely to experience sleep disturbances.

Table VI. 40 Frequency of Sleep Disturbances by Recovery, Damage, Community and Time

Frequency	Recovery				Community				Damage			
	Complete		Incomplete		Evergreen		F/B		Minor		Major	
	Time		Time		Time		Time		Time		Time	
	Befor	Now	Befor	Now	Befor	Now	Befor	Now	Befor	Now	Befor	Now
Often	7	0	34	14	17	6	17	4	16	5	19	7
Some	25	12	34	39	30	27	26	15	16	20	37	25
Never	68	88	34	47	53	67	57	81	68	76	44	68

Finally, when respondents were asked whether they felt badly that they had come out better or perhaps went through less pain than others, most said never (Table VI. 41). The exception was those whose described their recovery as being still in progress

Table VI. 41 Feeling Badly by Recovery, Community and Damage

Frequency	Recovery		Community		Damage	
	Complete	Incomplete	Evergreen	F/B	Minor	Major
Often	4%	4%	3%	6%	0%	6%
Sometimes	21%	53%	39%	26%	36%	33%
Never	75%	43%	59%	68%	64%	62%

Although this was a closed question, comments were recorded by interviewers. Four respondents said this was an unfair question and another said, "I couldn't have had more pain and I got lots of money but it doesn't bring her back." Several comments indicated respondents felt guilty for being alive or not doing more and some empathized with what others had gone through or lost. In contrast, others said they felt thankful to be alive and noted an increase in spiritual faith.

Anniversary Effects

The first anniversary of a disaster has been identified as a significant milestone in the recovery process. Determining how to mark the event created some tension within communities. In Evergreen there was a difference between community members about how to mark the event. A compromise was reached which included a private ceremony in the morning for community residents and a public ceremony in the afternoon with politicians and media. The following week a dance was held to celebrate surviving the year. In Fraser/Bannerman community members organized a block party for residents only, to mark the event and give thanks for being alive. Because it had been called a party there was a reaction by some who considered it improper to celebrate on a day which they thought should be mourned.

Of those respondents who felt their recovery was complete, 41 percent felt the anniversary had an effect on them while 76 percent of those who thought their recovery was in progress felt the same way. The anniversary had a greater impact on Evergreen where 60 percent of respondents were affected as compared to 45 percent in Fraser/Bannerman. Those who experienced major damage were also more likely to identify the anniversary as having an effect than those with minor damage. The most common emotional response to the anniversay was sadness. Several respondents thought it was important to mark the event as part of the grieving process.

At the anniversary respondents were not as positive about the media coverage as they were at the time of the event. Although 48 commented that it was good or interesting, 36 said they did not watch any coverage, saying they wanted to put it behind them or ignore it. Twenty nine responses were negative, indicating the coverage was sensational or not good and wanting it to be left alone. Of interest were comments made by 7 Fraser/Bannermen respondents who felt that their block party had been misrepresented in the media.

Overall recovery

When respondents were asked to describe their recovery at the time of the interviews according to whether it was finished, in progress or barely started, over half of respondents reported it was finished (Table VI. 42). Fraser/Bannerman residents were more likely to report recovery as complete as were those respondents with minor damage. Those who reported their recovery as being barely started were all from homes with major damage and from Evergreen.

Table VI. 42 Recovery by Community and Damage

Overall Recovery	Community		Damage	
	Evergreen	F/B	Minor	Major
Finished	53	72	66	55
In progress	41	28	33	40
Barely Started	5	0	0	6

As a final note, when respondents were asked whether they would like a summary of the survey results between 68 and 85 percent said yes. Those whose recovery was incomplete were most likely to want a copy as were those from Fraser/Bannerman. Those who reported their recovery as complete were least likely to want a copy, closely followed by respondents from Evergreen and respondents with major damage.

CHAPTER VII DISCUSSION

The discussion first reviews the organization and delivery of programs and services in relation to respondents' experiences of them. It is presented in the three time periods used in previous chapters. The relationship between demographic, event and mediating variables are explored and contrasted with results from other studies. Measures of recovery along a number of dimensions are discussed and related to models descibed in the literature. Emphasis is given to those areas that contribute to the literature or are unique to this event.

A. The Impact and Immediate Aftermath

Respondents' descriptions of behavior at the time the tornado struck support previous research findings that indicate people remain rational and take necessary measures to protect themselves. Respondents who were in situations where they had little external control, often indicated they did what they could to protect themselves. The importance of a sense of personal control was evident for many respondents, and those in the path of the tornado were more likely to report their recovery as complete when they had a safe place to go and when they knew what to do to protect themselves.

Most respondents were not rescued and those who were, most frequently reported they were assisted by neighbours or friends. Respondents also reported that they provided most of their own transportation. These results confirm other research that indicates survivors provide much of their own rescue and transportation (Lafond, 1989).

In general, disaster plans developed by agencies had some significant gaps. Not having an on-site social services representative at Evergreen during the evacuation resulted in lack of attendance at the government shelter. Pre-planning had not anticipated the generous open door policy of hotels. Although survivors evacuated to hotels, many stayed only long enough to register, locate other family members and contact relatives and friends. The literature suggests that, in the event of small and medium-sized disasters, the majority of survivors take shelter with family or friends. The present study supported this as well. While adequate shelter has to be provided, planning should include strategies for locating, registering, and getting information to those staying outside of communal locations.

Agencies had planned and were prepared to provide counselling and support to survivors. Although there were many mental health professionals at hotels, several commented that there was little to do. Respondents did not identify a need for mental health services in the immediate aftermath of the tornado. Primary concerns related to locating family members, learning about how friends and neighbours were doing, and communicating with concerned friends and relations. Respondents' recommendations for change at this time referred to the need for better communications and registration, and easier access to the damage site to search for loved ones.

Help for the Helpers

Much of the stressful mental health work was carried out in the early hours by volunteers on-site, at the Red Cross and at hospitals and the Coronor's office. Volunteers worked long hours under stressful conditions without recourse to consultation with mental health professionals and without any formal support or debriefing. The need for credible mental health professionals to be located on-site to provide support, professional back-up and debriefing were identified by several volunteer administrators. Pre-planning on the part of both agencies and volunteer groups is necessary to establish relations and to clarify roles.

A similar need for mental health professionals to be accessible to first responders, both professional and volunteer, was identified by service providers, respondents and community leaders. While debriefings were offered to some first responder groups and business employees, much more could have been done had the structures and personnel been in place. Again, the need for pre-planning and the establishment of prior relations between mental health professionals and first responder groups is essential.

Not all volunteers and first responders needed debriefing. Many respondents who participated in search and rescue activities reported positive experiences and other research has indicated that these activities contribute to a sense of mastery (Raphael, 1986). Not participating may be as stressful as being over-exposed. Respondents who reported feeling they had let others or themselves down often related these feelings to leaving the scene or to not participating in search and rescue activities.

These results have significance for the planning and delivery of mental health services in the immediate aftermath of disaster. While most service agencies plan for counselling and support services for survivors in central locations, planning must be broadened to provide for the needs of first responders and volunteers on-site and at locations of high stress.

Public Education and Media Relations

The lack of public education and media plans were identified as a gap by many service providers. Senior media representatives who were not included in disaster planning, would have been of valuable assistance in setting policy for their reporters. How an event is interpreted defines its meaning to both survivors and the community at large. Established relations with media would have facilitated coverage of information and issues that service providers identified as important.

The study results indicate many respondents with serious damage did not watch media coverage, either because they were too busy or because they found it too painful. Public education should be targeted to the broader community, especially to those who have contact with survivors. They can provide support and information to survivors.

Coordination of Services

Initial difficulties in establishing jurisdictional responsibilities were reported between the province and the municipality. Each claimed the other was not aware of their responsibilities. Having the disaster in the provincial capital with two emergency planning centres created some blurring of boundaries. Final decisions could not be made until both groups met to clarify issues and determine authority. While major issues were resolved some residual sensitivity to jurisdictional responsibilities remained. Jurisdictional difficulties described in other disasters (Drabek, 1981) indicate the importance of pre-planning between government levels as well as between government departments. The value of establishing credible and cordial pre-existing relations is discussed frequently in the literature and was evident at this time.

B. Clean-up

Activities involved in cleaning up and in reestablishing a home were identified by respondents as central at this time. The outpouring and importance of help and social support from family, friends and the workplace were acknowledged by almost all respondents, especially those with the greatest loses. The most common forms of help were concrete activities related to providing meals, shelter, and assistance with clean-up.

The workplace was identified as the most frequent source of support outside of family and friends. Help from fellow employees and time off or flexible working conditions were gratefully received. The importance of relatives, friends and the workplace to survivors indicates the potential usefulness of providing these groups with information on emotional response and reinforcing the value of their help.

The outpouring of unsolicited help from the public and the business community was appreciated, in particular the contribution of food to those on site. Simple things, like large garbage bins to load debris, and the quick restoration of utilities are the services provided by government which were recalled as important contributions. The outpouring of help from those close to survivors would suggest that planning for programs and service should be for the longer-term.

Mental health issues were not identified as areas of concern by most respondents during clean-up. The exception being the parental concern expressed for their childrens' well being. A few respondents indicated regret at not utilizing the counselling services at the Victims Assistance Centre, indicating that this service may have been under-utilized. Of all the referrals, EBH reports only one survivor required immediate medication. While survivors may be distressed they do not require psychiatric medical services (Baiseden & Quarantelli, 1981). The difficulties and adjustments that respondents had to make while they were evacuated are most accurately described as problems in living.

For some respondents dealing with challenges gave them a sense of mastery, for others it was overwhelming. For some survivors who reported slower thinking processes, decision making was more difficult. Service providers and those who are in contact with survivors should be sensitized to this difference and help simplify the nature and number of decisions to be made. Respondents identified the value of someone acting as a guide to help them think of the things they might not consider and to provide assistance with such activities as filling out insurance claims. Compiling a list of lost articles is part of the grieving process and to go through a house room by room, closet by closet, drawer by drawer is a lengthy, and painful experience. A volunteer would be helpful in the event there are no friends or relatives to assist.

The issue of security and access were major concerns for respondents in both communities. Developing a balance between security and access has been identified as difficult to determine in other disasters, and even created some tension within the police force itself. While other research studies have indicated that looting is unusual in natural disasters and police reports support that respondent anxiety about looting was high. Planning policies related to access and security should be a priority as traditional practices need to be examined for their applicability and appropriateness in disaster situations.

Multi-Service Centres

Multi-service centres were positively received by repondents. The assessment and intake process helped identify and address both immediate and long-term needs. The Victims Assistance Centre was important not only for survivors but also to service providers. It offered a common setting and experience that fostered flexibility, and created a shared identity and responsibility that extended beyond agency affiliation. It also allowed service providers an oportunity to carry out familiar roles, such as intake and counselling while developing skills and establishing confidence in working with survivors. Agencies had time to conduct an inventory of their resources and broaden their network in order to plan for long term services. Other studies have described difficulties in fostering collaboration between agencies and developing new structures for decision making and service delivery (Taylor, 1976; Drabek, 1981). A common neutral place is one way to facilitate this process.

A multi-goods centre, such as the Emergency Relief Service, was appreciated by respondents as it reduced the stress associated with trying to remember everything needed, from clothing and toothpaste to chesterfields, to furnish a home. A potential benefit of providing emergency household goods is that it allows survivors time to determine what they need and to shop for good values at a later time when they have more energy.

Volunteer Response

The volunteer response to this event was far in excess of the need created by the disaster. It may be idiosyncratic to Edmonton, which has for several years had the highest number of volunteers per capita of any city in Canada. Or it may be due to the unexpectedness of the event and the fact that it did not destroy major areas of the city. However other studies (Short, 1979) have identified the need to plan for and accommodate to the outpouring of assistance and the need to "help" in the larger community.

Non-Government agencies and groups were much better positioned to manage the volunteer response. With the exception of the Edmonton Police Department, government agencies had no way of screening or effectively utilizing volunteers. While some groups organized their own membership, new volunteers were screened by the Red Cross in terms of assessing skills and ERS simply took them as they came. Government agencies may not be organized to effectivly respond to an influx of volunteers in the short run. However they could enlist volunteers in long-term activities such as building a shed, providing child care or supportive visiting.

While Community and Family Service was technically responsible for co-ordinating ERS, their phenomenal growth created a life of its own. The excitement and activity level at ERS eclipsed the traditional roles held by such groups as the Salvation Army and created some difficulties for other service providers administratively and organizationally. The convergence of volunteers and the growth of some groups, occasionally at the expense of others, has been well documented in the literature (Dynes and Quarantelli, 1980). The need for interagency planning to prevent duplication and promote coordination of service was evident. The use of committees or neutral third party agencies to mediate disputes as they arose was also helpful.

In many ways the ERS was a blessing for established agencies. It provided a central location to manage the convergence of volunteers and "help". This left the established agencies free to carry out their activities in the relative peace of the Victims Assistance Centre.

Organizational Issues

In contrast to the gaps identified in the coordination and delivery of service in the early hours after the event, the services offered in the two subsequent periods were better planned and more comprehensive. The positive experiences of collaboration and cooperation at the Victims Assistance Centre provided a model for long-term planning between the three government agencies. The need to formalize the transition between interagency planning at the senior administrative level and planning at the community level when the period of emergency is over was identified.

The established relations between the three government agencies facilitated planned and coordinated services and a positive working climate. However it also contributed to the sense of isolation described by representatives of non-government agencies and emergent groups. While efforts such as the training workshop, the interagency counselling meetings, and the newsletter were designed to include the wider group of service providers, the decision making for inter-agency and inter-group activity occurred primarily on committees with representation from the three agencies.

When emergent groups planned their programs without consultation or collaboration with mainstream agencies, their activities were slow to be sanctioned and some tensions resulted. While agency and community representatives met frequently and many times planned for activities jointly, they also functioned very independently and at times without knowledge of what each other was planning. There was a tendency on the part of service providers to respond more positively and to collaborate more frequently with community representatives from established groups. Emergent groups were frequently seen by them as troublesome or difficult to deal with. A similar pattern was noted with community leaders. Those with some pre-established credibility were consulted frequently but agency representatives were often not aware of the extent of the work or network of emergent and other "block talk" leaders who were visible within their community but did not have formal roles. Agency representatives also did not foster relations with, or actively utilize informal information sources such as the proprietors and employees of the Evergreen Mall Stores or bar tenders at local drinking establishments.

For legitimate reasons, staff or management may decide not to include or sanction some groups or individuals. However the decision should be an informed one, made from an awareness and knowledge of the players, their networks, and potential contributions. The literature indicates the frequent emergence of new groups and community leaders after disasters (Stallings and Quarantelli, 1985) and frequent difficulties with established agencies (Taylor, 1976). In determining policy and relations with emergent groups, analysing the reasons for their emergence should be a part of the planning and decision making process for established groups and agencies.

Long Term Programming

Long term programing included a number of activities. Most of which have been described in other disasters (Hefferon, 1976; Logan, 1986; Taylor, 1976; Tierney & Baisden, 1979). A comparison suggests that the organized response to this disaster was one of the most comprehensive ever designed both in terms of aid and services.

Public Education

A number of public education strategies were used with varying results. While respondents most frequently recalled information from the popular media it was closely followed by more community based strategies such as word of mouth and newsletters. Knowledge of, and participation in, programs occurred frequently because of word of mouth. Developing and strengthening natural networks, alluded to above would do much to enhance participation in programs. Public information meetings were well received when the agenda was clear and people knew what to expect. Respondents emphasized a number of times the need for practical information from credible sources. The number of respondents with serious damage who attended these sessions, indicate that they were meeting the appropriate target group but that they could have been advertised more effectively and been held more frequently.

Results indicated that television was most frequently recalled for providing concrete information about such things as how tornado's develop. The print media appeared to be more effective in providing information on emotional responses. It may be that print information can be absorbed without the emotional connection and immmediacy of television. Print information on programs and services can also be saved for a later time when it may be needed.

As mentioned earlier agencies need to have a media plan and designated spokespersons. The use of credible media talk show hosts and identifying survivors who could tell their stories to get important messages across had potential but were underutilized. While professionals can provide the facts often survivors can deliver the message with more impact.

Brochures were identified as having some usefullness particularily the information sheets by the EBH which were placed in survivors mailboxes during the first year. However there was also a tendency for respondents to collect "libraries" of information that at times were not read.

Respondents indicated that the service most under-utilized and with the greatest potential was a central telephone information and referral line. While there were two possible numbers available neither was well advertized. The fact that the existing information and referral agency received the most calls would support the use of agencies who already serve that function.

Some value was also identified in innovative programs which include the use of a puppet "Happy" to educate children, a television program on developing a family emergency plan, and a Childrens' Art and Poetry Exhibition. Each of these strategies delivered messages in ways to which the general public could respond.

Outreach

In Canada outreach has most frequently been carried out by Public Health Nurses who are a visible, professional resource in the community. In the United States outreach has been carried out most frequently by volunteers, some of whom may be mental health professionals. In this event outreach was organized by both professionals and volunteers. It may have been because of the nature or scope of the volunteer program, that there was an evident problem with visibility. Most respondents did not describe their activities as those typically associated with outreach. The volunteer outreach program ended in January yet the number of respondents who identified storm fears or delayed reactions indicate some value in longer-term programs.

Other outreach programs using volunteers have described workers visiting in pairs (Hefferon, 1977; Taylor, 1976). While this strategy would not be cost effective with paid professionals the possibility of coupling them with volunteers who could later do some of the follow up could be explored. This would be one method of utilizing volunteers, ensuring that they were informed and up to date about programs and services and extending the activities that could be offered during outreach.

The 56 percent of respondents who reported needing outreach services corresponds to the same rate reported by outreach workers in the Hefferon study of the Pennsylvania floods (1977). The majority of the problems identified by outreach workers related to problems in living and stresses associated with these. Again these were similar to results in other studies (Hefferon, 1977; Taylor, 1976). Most referrals were made to groups and agencies providing concrete services and financial assistance rather than mental health services. The variety of problems identified indicates the importance of outreach workers being informed about programs and services.

Determining the scope of outreach and how frequency of contact was an issue identified by service providers and indirectly by respondents. Making appropriate contact with those who reported they needed help but were afraid to ask, as well as those who didn't want contact posed difficulties. In this event, the criteria for outreach was geographic and referrals made by others in the community. Results from this study indicate the value of initial outreach to those whose homes were damaged and those in the vicinity. Other studies (Raphael, 1986) have suggested that the impact of disaster extends beyond those who experience physical damage and results here support that notion. Considerable effort should be made to contact those who relocated outside the community, as well as those who lost a loved one, or had a family member who was injured. Their results indicate that the added stressors on these survivors coupled with their isolation from community information sources make them particularly vulnerable. Results also suggest that subsequent follow-up visits should be based on the degree of damage and loss, the adequacy of (or lack of) insurance coverage, as well as the assesment of the outreach worker, . Those with lower incomes and less education are also more vulnerable. The possibility of a delayed response with those who participated in search and rescue as well as those who contributed to the long term community rebuilding should be considered.

Outreach is a demanding and time consuming activity. One priority during the first visits should be to identify and engaging potential informants within the community. At least one per block should be identified as a resource to facilitate the spread of information, identify community concerns and refer friends and neighbours who may experience difficulties later.

Outreach provides an opportunity to conduct a systematic assessment of the needs of survivors. Such data can be used by other government departments and service providers to develop policies and programs that encourages equity in the distribution of financial assistance, goods and services.

In all disasters, evaluation of outreach should be a priority to determine among other things the appropriateness of the scope, the nature of problems identified and the need for programs and services.

Mechanisms to ensure support for outreach workers and prevent emotional overload need to be built into the program design. Workers are particularly vulnerable during the first round of visits when the activity is new and survivors have a need to pour out their experiences. Workers who listen to stories of trauma and difficulty day after day need access to consultation, opportunities to discuss their own responses and to receive support and acknowledgment for their efforts. Later in the year, when the wider community has forgotten or tired of the event, workers need their efforts sanctioned and supported by management and fellow workers.

Support groups

Qualified responses to questions relating to satisfaction with support groups indicate some considerations are necessary in program design and implementation. The timing and growth of a support group was identified as important. Several respondents indicated that they or other family members were not ready to deal with tornado related issues at any one particular time. Many respondents heard about groups by word of mouth and through contact with other service providers supporting the notion of time needed to facilite word of mouth. The value of having group leaders do some outreach work with those targeted for their program was also recommended. Fostering inclusion techniques such as "each one bring one" and "neighbour to neighbour outreach" should also be considered. The evolution and disolution of most support groups over time indicates the transiency and perhaps normal life cycle of this type of groups.

Some respondents liked the concept of conducting groups in people's homes to promote informal networking and support after the group was disbanded. "Kitchen Table" and "Block Talk" groups strengthen community networks and promotes self help but they may be limitated in dealing with some problems. When support groups were offered with professional facilitators, demonstrated leadership and group process skills were identified as important to participants. Training in emotional response to disaster should be provided to leaders.

The positive reactions expressed by respondents to the teen and pre-teen youth groups provide some indicators for successful programming. It was an appropriate and under-serviced target group. Group leaders were selected for their ability to relate well with youth. Programming matched the interests of the group and was balanced between social activities and those designed to increase participants skills in problem solving and dealing with emotions. Later in the year activities which contributed to the community such as tree planting were included.

Counselling

From respondents' comments it is evident that counselling services were identified most frequently during longer-term recovery. Respondents reported they needed time to re-establish their homes and daily routines before being able to take the time to assess and deal with emotional responses. The exception may be the immediate need identified by parents for information and support related to handling their childrens' reactions. Other studies have indicated that people need time to test their own problem solving strategies and use their natural helping networks. The frequency with which respondents identified the importance of information about normal emotional reactions provided by public health nurses indicates the value of both education and outreach.

The positive response to counselling experiences and the recognition of the Stress Cousellors indicates support for their activities. Utilizing new staff, based in the community, with encouragement to be innovative appears to have been effective in overcoming anticipated resistance to counselling. Counsellors spent much of their time on public education in a variety of settings rather than only individual counselling. Respondents who spontaneously indicated regret at not using counselling services also indicates some support for these activities. Whether this is a change in the attitude of the general population towards counselling or simply to this event is not determined. Respondents who reported their recovery as still in progress were more likely to indicate knowing about or using counselling services than those whose recovery was complete. This suggests that counselling services were reaching the appropriate target group.

It is of some interest to note the numbers of respondents who reported they had sought counselling on their own. Respondents identified family doctors and ministers as sources of help. Survivors seek counselling from trusted helpers without considering whether they are experts in disaster response. These helpers must be informed about emotional reactions to disaster and about programs and services available. The value in extending training and providing information to a broad spectrum of helpers is evident.

The number of referrals made by EBH for counselling is simmilar to other studies in terms of numbers and reasons for referral (Hefferon, 1977, Taylor, 1976). AMH reports that the average number of sessions was 2-3 indicating most problems were not severe or long-term. Counsellors described the problems of survivors who were referred later in the year as often having origins which pre-dated the tornado. Respondent comments suggesting disaster related stress raises old scars and previously unresolved difficulties support counsellors' perceptions.

Determining the most effective delivery and techniques for counselling is not the purpose of this study but is an important study in itself. Some respondents comments may be helpful in planning services. A number of respondents, particularly those in Evergreen and those with young children, appreciated the value of having counselling in their own homes. Counselling services were offered without charge and many of those who received services would not have been able to afford regular fees. Respondents did not comment on costs and they may not have considered the possibility of having to pay.

Advocacy

A number of advocacy activities were required at both the individual and community level. Activities included facilitating referral to other services, advocating for policy changes in government programs and development of new services. Different types of advocacy were carried out by different groups and agencies. As mentioned earlier the Victims Assistance Committee was the group most vocal and active in responding to the concerns of those people who fell through the cracks, and to the lack of response from government.

When an advocacy group is criticizing a program and pushing for policy changes it creates difficulties for service providers. Outreach workers and other service providers can systematically collect and report data on community concerns. They can represent the communities concerns within their agency and to executive officers of other departments and agencies. However when programs or policy changes are not forthcoming citizen and non-government groups may be the only ones in a position to respond effectively to survivor concerns.

Participating in advocacy activities can be a positive and healing activity for survivors. Other studies have acknowledged the importance of advocacy activities for survivors as a way of gaining mastery, difusing anger, creating policy changes (Miller, 1979). In this case the members of the Victims Assistance Committee that were interviewed found the experience helpful in helping them come to terms with the event and giving them a sense of satisfaction for their contribution.

Rituals and Symbols

Rituals are useful in making meaning of, and coming to terms with, a disaster event. In this case respondents noted some rituals that seemed to make a difference and others that were supposed to make a difference for some respondents but did not. Formal rituals such as the interfaith ceremony held at a downtown location shortly after the tornado was not well attended by survivors. Such ceremonies best provide an opportunity for media, politicians and religious leaders to mark the event In contrast a welcome home party organized by the staff at United Way for residents at Evergreen was well received. Letters received from the Governor General on behalf of the Queen and from the City Manager also appeared to have been well received. For many respondents Christmas was a significant marker. The warm response to gifts and remembrances and an increase in the number of Christmas lights in the community were noted. Landscaping and tree planting was identified by respondents as important the following spring. The formal ceremony, held in Evergreen to mark the first anniversary, was preceded by a private ceremony earlier in the day. Both communities organized celebrations around the anniversary, Fraser/ Bannerman at the time and Evergreen one week later.

Rituals and ceremonies are important to provided public acknowledgement of the event. However they appear to have most meaning to survivors when they are personalized and organized within the community.

Assistance and Insurance

Difficulties in ensuring that no one suffered resulted from a number of policies, structures and attitudes. The nature of mobile home construction and the lack of experienced workers made repairs difficult. Attitudes of some insurance agents and government employees were identified as problematic. Special problems with insuring mobile homes were identified.

It should be kept in mind that the provincial government assistance program was perhaps the most generous program ever established in North America. Yet much of the assistance did not go to those who were most in need of it. It is not uncommon in disaster recovery to inadvertantly set policies that excacerbate economic problems of the poor. Other researchers (Bolin,1985; Taylor, 1976) have noted a pattern of neglect toward the poor in reviewing the assistance provided in a number of disasters.

While three quarters of those with major damage applied for government assistance almost one quarter did not either because they chose not to or because they reported they didn't know about the programs. Because a lot of people did apply for assistance it did not occur to officials that others who may have needed it had not. The results indicating the difficulty some respondents had in making decisions or taking action in the weeks following the event may have had some effect. Some respondents are also resistant to any form of government assistance and refused on principal. This may not be an issue for those with adequate resources and in fact reduces the economic costs associated with disaster assistance. However when implementing programs the fact that there are some survivors who although eligible will not apply should be considered. Outreach workers should address economic issues in their early visits to ensure assistance for those in need.

The Red Cross developed policies that considered the long term needs of survivors whose injuries were disabling and those of the children whose parent had died well. However in allocating funds to other survivors some assumptions had considerable impact on the poor. The Red Cross did not want to duplicate assistance provided by the province so they determined that aid was not to go for things that should have been insured. In determining the settlement of claims for injuries comments that a $5,000 difference in settlement for similar injuries was not significant does not respect the meaning of that sum to those with reduced circumstances. The committee felt the assistance of a psychologist and a specialist in rehabilitative medicine would have been a useful addition to the commitee but did not note the absence of a representative from the Evergreen community. While this may not have prevented the disatisfaction experienced by Evergreen respondents it would have increased the communities input and contributed another perspective.

There were also some policies in the provincial aid program that created more difficulties for those with less economic resources. The implementation of policy that included such things as eighty percent coverage of lost goods, $1,000 deductable and non-replacement of luxury or non-essential items had a significant impact on those with limited and fixed incomes. While replacing a stereo or woodworking tools may not constitute a great hardship to middle income families, and in fact was not an issue for those with adequate insurance, it was for the poor or retired.

The political difficulty in determining policy that is equitable rather than universal has been identified elsewhere (Bolin, 1986).

Planners when setting policy, should consider the volume of research that consistently indicates the increased difficulty the poor have with economic recovery. Assumptions that people should have insurance indicate a lack of awareness of the reality of poverty. Not replacing "luxury" goods such as books, stereo's, and hobby equipment does not acknowledge their importance to the poor or their difficulty in aquiring them in the first place. Nor does it recognize the impact their loss will have on quality of life and daily life activities.

While relocation grants were a generous offer on the part of the Province the overwhelming outpouring of assistance from family, friends and community in the days and weeks after the event would suggest that this form assistance may be better spent on those with greater long term need. Survivors with adequate insurance had coverage for living expenses, making the grants redundant.

Some changes that might have prevented the exclusion and some benign neglect of the most vulnerable recipients included representation on committees determining policy for aid and assistance programs. The Evergreen community had been disenfranchised from the legitimate decision making processes. The only way they could have input was politically and through the media. Change in policy came at the political level as a result of publicity and advocacy activities from the Victims Assistance Committee.

Difficulties with insurance were similar to those identified in many other studies. There were some unique problems associated with replacement clauses in insurance policies for mobile homes. Many survivors found themselves with inadequate insurance. While some insurance companies and their agents were supportive of claiments others were not, especially when they knew claiments did not have the resources to challenge their decisions. Inadequate insurance and the lack of resources to challenge decisions, coupled with the difficulties in repairing mobile homes, created considerable stressors for a vulnerable population.

Many insurance agents were inexperienced and unprepared for the demands of responding to this event, placing them under considerable stress. Training should be provided in setting reasonable time lines, assessing losses when nothing is left and being sensitive and knowledgable about survivor response.

D. Recovery

Recovery has been related to a number of demographic variables, event charactertistics, and mediating variables such as aid and social support. Findings in this study support those in the literature that indicate education, employment, economic status, and family structure play a significant role in predicting recovery. Fraser/Bannerman respondents who more frequently reported their recovery as complete were more educated, employed in higher skilled occupations, and economically better off than Evergreen respondents. Evergreen's population was also more vulnerable in terms of the number of elderly, single parents, and those living alone. The few seniors and their almost exclusive residence in Evergreen confounds whether age or other factors increased their vulnerability.

The degree of damage was a major predictor of the stage of recovery. Those with severe damage were more likely to report their recovery as in progress or just beginning and those with minor damage reported recovery as complete. But of interest was the number of respondents who did not have serious damage and whose recovery was still in progress. There was also a number of respondents without serious damage who reported continued emotional reactions. Conversely some respondents who were in the tornados path and lost everything reported their recovery as being complete. Interviewers had commented that respondents who "had been through it" seemed to know they could survive and handle as bad as it gets whereas those who were close but undamaged were left with the uncertainty of the "what ifs" and "Could I's".

Social support has been identified in a number of studies as mediating the negative effects of disaster (Thoits, 1983). Here social support was valued and almost all respondents indicated receiving and accepting offers of support and help. Those who reported their recovery as in progress were slightly more likely to report offers of help from family and friends and service providers. Whether this is a true difference or a difference in recall is undetermined. The measures to determine social support in this study did not discriminate the degree of adequacy. Although the numbers of respondents who indicated they were not supported were low their pain was evident. It may have been that social support was as high because this was an unusual natural disaster in this community. Social support may be measured with more discrimination in other types of disasters where support is not so forthcoming.

Dimensions of Recovery

Bolin (1982) discussed four dimensions of recovery: economic, housing, quality of life and emotional. In this study, results indicated there were also other dimensions that had some potential for exploration. These dimensions include community, relationship and spiritual effects. They are referred to as effects rather than recovery because unlike economic or housing recovery where there is an assumed standard to be used as a baseline these may reflect respondents' discovery of new dimensions that were not there before, such as a belief in a higher power or recognition of a sense of "community". Conversely, the strengthening, ending or beginning of relationships were, at times, interpreted equally positively by respondents. There was not a prior standard for relationships to recover to.

Recovery and Spiritual Effects

Spirituality as a dimension of recovery had not initially been considered in this study. Its inclusion as a dimension is a result of respondents and community leaders unsolicited comments. It seems that disaster provide survivors with an opportunity to reflect on the meaning and purpose of their lives. Measurement of this effect is subjective in orientation. Respondents spiritual comments were not necessarily related to organized religion but rather reflected a sense on increased meaning and individual purposiveness in the world. In a secular society there is little opportunity to explore or express this dimension. In fact the organized religious response from mainstream churches was minimal with the exception of the Roman Catholic Church. Other studies have recognized the value of spiritual counsellors in times of disaster but their role has been defined most commonly as grief counsellors. Spiritual advisors who can respond with some sympathy to such issues make a valuable contribution to survivors at this time.

Recovery and Community

Both communities indicated an increase both in the number of neighbours known and in the number of community related activities. In Fraser/Bannerman a positive increase was more evident than in Evergreen. Evergreen was not only more damaged it was also more disrupted as survivors were relocated in other areas of the park or moved out all together. The outside attention on Evergreen and the split that developed around the meaning of the tornado added to stresses already evident. Whether this split was simply a result of the tornado or as an escalation of the normal patterns of factionating that are common in smaller, closed communities would be of interest in another study.

Fraser/Bannerman respondents rebuilt in the same location, lived next to others who shared the same event and also shared the same frustrations in reconstruction. Another study could explore in depth, what community recovery mean in terms of relationships and networking.

The feelings some survivors expressed about others not understanding what they went through, suggests the potential value of survivor support groups to provide opportunities to ventilate and share experiences. It may also help to educate survivors about the limitations of others, who have not experienced the event, to understand the problems faced by those who suffer.

The importance of community support is reflected in the results. Those in Fraser/Bannerman were most likely to report their recovery as complete followed by those in Evergreen followed by those who had moved away from the community. In this case there is a dilemma in that moving away may be a safer decision because of the lack of protection in mobile homes. Community recovery in Evergreen has been complicated by changes in weather patterns and the increased numbers of tornado's in the vicinity. The possibility of recurrance and the lack of protection available in mobile homes has escalated anxiety in the community and created ongoing stress during storm warnings and bad weather. Potential for recurrance has been found to delay recovery in other studies (Bolin, 1985). Residents have had to decide between maintaining community relations and economical housing or moving to a structure that ensures greater safety.

Recovery and Relationships

Most respondents reported their relationships with friends family and relations were the same or closer since the tornado. These results are supported by findings in other studies (Bolin, 1985; Figley, 1983; Drabek, 1984). Many reported the experience as raising awareness of the value and importance of loved ones. It is interesting to note the lack of association respondents made between the stresses of re-establishing homes and daily routines on their relationships. For many, dealing with those stresses strengthened relations. Others who were already experiencing difficulties, may have pulled together for a short while, but later the relationship continued to deteriorate or, the event escalated the deterioration.

The literature on family functioning indicates that there are significant differences in the support and problem solving strategies of families. Successful resolution of problems has been shown to strengthen the families identity and increases problem solving effectiveness (Beavers, 1977). The problems an event such as a disaster create provides ample opportunity to challenge families support and problem solving capacities.

The results here indicate there may be an optimal limit to the amount of stress that strengthens relationships. A more detailed examination of the data indicates that with greater damage there is a greater chances of relationships growing apart with at least some members of the family. This pattern was evident in both communities but was compounded in Evergreen where there was greater damage and families had fewer economic resources to cope with the stress. Reduced financial resources in Evergreen were balanced by stronger extended family connections than in Fraser/Bannerman. Bolin (1982) has indicated the importance of extended family relations in families with lower incomes. The extended family is an important resource not only for aid and support but also as an information source and to sanction help seeking behavior. Public education should be targeted not only at survivors but also at those in a position to inform and influence survivors.

Growing apart in some relationships may not be a negative indicator. While some respondents describe these changes as a loss others reported them an indication of becoming stronger, more able to set priorities and separate from those they did not feel were supportive. These decision seemed to be experienced by survivors as a growthful and positive experience.

Emotional Recovery

The greatest differences in responses related to emotional recovery were the differences over time. While emotional responses were recalled as common and frequent in the months just after the tornado, especially by those who experienced major damage, at the time of the interviews they had diminished significantly. Storm anxiety was the most common fear identified. Given the impact of a tornado on those in its path and the increased possibility of recurrance these are legitimate concerns. Other fears and dreams associated with being separated from loved ones may reinforce respondents reports of increased value of these relationships.

Results from both respondents and service providers indicate there were few severe mental health problems. This study did not ask respondents directly whether they felt that any continued emotional difficulties were seen as a normal part of the recovery process or were problematic enough to cause them distress or interfer with the quality of their lives and relationships. Such an exploration would have provided a useful contribution to the discussion on the nature and severity of disaster related mental health problems. It would be productive to examine more fully emotional recovery in relation to the common stressors common of disaster such as grief and loss, storm anxiety, simple exhaustion, loss of community, and adequacy of financial aid.

Long term emotional recovery fits well with Lazarus's (1984) model of stress, appraisal and coping. Survivors exposure to the trauma of the event and their appraisal of long term stressors that may threaten their capacity to cope need to be explored more fully in terms of their long term effects on functioning and a sense of mastery. There are some indications that respondents who felt overwhelmed by the expereience and the subsequent stressors loose some of their resiliance and ability to manage stressors that they previously had not found challenging.

While this model would lend support to the need for programs and services to address more equitably those whose capacities to cope are restricted by economic and educational limitations, it also accounts for the internal appraisal process of survivors independant of external resources. It accounts, in some measure, for the differences in overall recovery reported between respondents who lost everything and had inadequate aid with those who reported being stressed by the lack of an electronic garage door opener. However these are tentative indications and require further study.

With the exception of fear related to weather and a recurrance of the event, other emotional indicators are in relation to the dimensions discussed earlier. For those who are planning programs and working with survivors, effectively addressing emotional recovery is often impossible without consideration of the issue creating the stress.

For many survivors the increased stressors and accompaning emotional reactions may be unfamiliar. Providing outreach and educating survivors and their families as to the normal emotional responses during recovery was identified by many respondents as helpful.

Economic Recovery

In discussing the results on economic recovery it should be kept in mind that the government assistance program was one of the most generous programs ever implemented after a disaster. It should also be recalled that this assistance was offered within the context of a naive community with respect to disasters and the premiers promise that no one would suffer as a result of the disaster. In another study it would be of interest to explore economic recovery indicators and survivor satisfaction with government assistance programs in relation to survivor expectations.

While most respondents reported their financial situation was the same or better almost one quarter reported they were worse off. Those who were doing as well or better financially were more likely to be from homes with less damage and from Fraser/Banerman. Those with major damage from Evergreen were most likely to report a worse financial situation. Some of those reporting reduced circumstances were as a result of chosing to upgrade their accomodation but many indicated that it was a result of insufficient insurance or assistance.

Housing Recovery

In relation to the housing concerns described in other studies (Bolin, 1986; Raphael, 1985), Edmonton handled housing issues well. Survivors were initially housed in hotels and later townhouses in the area were made available. Concerns about the quality of housing were infrequent and with one exception, minor.

While those in mobile homes which required total replacement were relocated quickly satisfaction with the quality of their replacement homes was not specifically asked for. The difficulties described earlier in repairing mobile homes and the lack of reputable mobile home repair companies compounded problems for those who required repair but not replacement. When damage occurs to mobile homes it appears that replacement is preferable to repair. While interviewers reported experiencing some dismay at the housing condition of some respondents, they also noted others who proudly displayed their new homes.

In Fraser/Bannerman the completed housing was generally as good or better than what had existed before. Problems in repair and reconstruction related most frequently to slow and shoddy workmanship and are the similar to those identified in almost all disaster studies. Of interest were the comments from survivors in this community who in spite of the satisfaction with the quality of their homes reported missing the familiarity or design of their old homes.

Community leaders suggest most survivors ended up with better than they had previously. However the study does not provide the direct data to support these claims.

Summary

Other studies have indicated that economic recovery must precede overall recovery. Results from this study indicate that those who report their financial situation as about the same were most likely to report their recovery as complete. However those who report their economic situation as better were equally likely to report their recovery as complete or in progress as those who report their economic situation as worse off. The relationship between economic recovery and an overall perception of recovery is not clear.

While respondents did not hesitate when asked what stage their recovery was at, what they were using as personal indicators to make the classification is not clear. An important exploration for another study would be to simply ask respondents what considerations and criteria they use when determining recovery and their stage in that process.

CHAPTER VIII SUMMARY CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a brief summary of the findings with conclusions and recommendations. Comments are made, and should be considered, within the context of a medium sized natural event that occurred in a naive community with respect to disaster. Recommendations are based on the results of respondents and service providers perceptions of the organized response to residential communities. As such they may be different than results from survivors who were working in the industrial area or survivors who relocated and did not access or were not contacted by service providers. The effect of event characteristics, demographic and mediating variables on a number of dimensions of recovery are related to their implications in the design of policy and delivery of programs. Recommendations for further study conclude the chapter.

Results indicated that sixty percent of respondents reported their overall recovery as being complete 16 months after the event. Differential effects were noted between communities and between degrees of damage on all dimensions of recovery. Of interest, were the differences between economic recovery and respondents' assessment of overall recovery. Respondents who reported their financial situation as worse than before the tornado were almost equally likely to report their recovery as being complete or incomplete. Those who reported their financial situation as better than before the tornado were twice as likely to report their recovery as still in progress.

These findings are in contrast to other studies which have suggested that economic recovery must occur before other dimensions of recovery but the results of this study do not support that finding . The relationship between economic recovery and overall recovery is not linear and requires further exploration..

While there were differences in recovery patterns between those with minor and major damage and significant differences were noted between communities. This suggests that a number of other conditions contributed to the differences between the communities. Demographic indicators suggest that the Evergreen population was more vulnerable in terms of economic, education, employment, and family composition. However, Evergreen reported closer relations with extended families. The scope of damage to Evergreen also created greater dislocation and reduced the potential community support. Differences between communities and the amount of damage were related to the degree of satisfaction with assisstance as well as utilization of programs and services. Those from Evergreen and with major damage were least satisfied with economic assistance and were more likely to use services. Help and support from family, friends and the workplace were offered to and accepted by virtually all Evergreen respondents. While this study did not directly explore satisfaction with informal sources of help, results do suggest the greater need for assistance was not because of a lack of informal sources of help but rather the greater demands placed on survivors with fewer resources to cope with them. In planning programs and services policy makers should consider that those most vulnerable will require multiple sources of aid and assistance to address the greater difference between demands and their resources to cope with them.

Determining the nature and scope of organized services is one of the central questions in the study and results indicate a dilema. Most respondents indicated they were aware, to varying degrees, of programs and services offered. Almost half of the comments made by respondents indicated they felt enough was done and respondents who reported their recovery as incomplete did not identify the need for more services, although several indicated the need for more money. However interviewers, in the course of surveying, expressed concern about the well being of some respondents. Community leaders and respondents often indicated their concern for others who, they felt, needed, but had not received or sought help. While this may be a variation of the mythical "I knew someone that.." theme, this gap between the reported need for services and their under-utilitzation has been identified in other research. The discrepancy may occur for a number of reasons such as the effectivness of advertizing and delivery of services or a natural reticence to seek help. It may also be that survivors recognize recovery is a difficult and, at times, painful process that requires time to come to terms with. The service providers main responsibility should be not only to deliver services but also to fostor, through public education and community outreach, a climate that supports help seeking behavior.

The conclusions and recommendations made in the following sections are not comprehensive. Selected results that highlight either the effectivness of the organized response or the need for change in the development of policy and the planning and delivery of services are emphasized. Presentation is made in terms of pre-planning as well as the three time periods used through out the report.

Pre-Planning

Much in the disaster literature has been written on the value of planning and pre-establishing relationships. In this case, the importance of planing to plan for the unexpected was illustrated. Although municipal planning included hazard analysis, tornados had not been identified as a potential hazard. While pre-planning at the municipal level had some benefit, the fact the disaster occurred when many managers were on holidays illustrates the importance of having more than one senior level department official knowledgeable about disaster response. Differences identified between the two levels of government may have been reduced with increased communications both before the event and in the immediate aftermath to clarify roles and responsibilities. Agency staff should be encouraged to participate in Emergency Training offered provincially and from Emergency Preparedness Canada.

The public's need for information after a disaster indicates the importance of including media respresentatives on emergency planning committees. Relations with media must be fostered prior to a disaster in order to ensure important messages are presented. In order to heighten awareness of emergency response, other public eduation events such as an annual family emergency plan day, could be co-ordinated to coincide with fire prevention week. More publicity about information sources such as the emergency and weather precautions in the white pages of the telephone book or the tapes on the Health Line should be considered. Other pre-planning issues are identified as they relate to the delivery of programs and services.

Immediate Aftermath

Results indicated survivors, for the most part, remain rational and take what precautions they can to protect themselves. Most respondents took care of their own rescue and transportation needs and also took shelter with family or friends. Respondents did not identify a need for mental health services in the immediate aftermath. While many were grieving and valued support, it reportedly came most frequently from family and friends. Respondents were most concerned about locating loved ones and communicating their condition to concerned family and friends. A study of survivors who lost family members may indicate other results with respect to counselling at that time.

In order to provide support and assistance to those who are distressed it is important to re-explore the definition of who is included in that category. It was evident that those first responders, both volunteer and professional, who were exposed to injury and death were vulnerable to serious stress reactions. While it is important to have mental health providers at evacuation centres, it it even more important that they be present at demobilization centres on site to provide consultation, and prevent over exposure to stress.

Mental health providers should develop relations with first responder groups and agencies prior to disaster to establish their credibility and define their role. This could be done through establishing debriefing teams, and offering training and inservices to front line workers as well as formal planning at the senior level.

All volunteers and first responders, especially those who are exposed to death and injuries, should have access to debriefings. Similarily, volunteers and front line workers who are dealing with those who have lost loved ones or those who are desperately trying to locate loved ones, should also have access to debriefing.

While the purpose of this study is to explore the mental health response, respondents indicated two issues that were important to their well-being but somewhat unrelated to direct mental health services. While ensuring safety and security of the disaster site is primary, some consideration should be given, where possible, to addressing more effectively family members need to know the whereabouts of each other. Providing an on site representative of human services to document names or descriptions of evacuees as they left the site and to make sure evacuees knew where to go, may have reduced some of the intense anger family members expressed at not being allowed access to the area.

Cleanup

A similar issue of access was identified during clean-up. To ensure security but not unduly restrict access should be a priority. Many future problems with insurance could have been prevented if Evergreen respondents had been able to take action to prevent further rain damage.

Most respondents took care of their own clean-up with the help of family and friends. Providing large garbage bins to remove the debris supports these efforts. Having planners be aware of the activities of the Church of God in Christ-Mennonites and allowing them easier and earlier accesss to damage sites would have facilited assistance with those who could not manage their own clean-up.

The concept of multi-service centres met the needs of both survivors and service providers and should be encouraged as a model in other disasters. Mental health workers should give priority to providing group support, an opportunity to ventilate, information about normal emotional responses and concrete suggestions to parents about how to respond to childrens' concerns. Similarily a multi-goods centre was useful in enabling survivors to access goods with the least amount of stress. Provision of interim furnishings allowed survivors time to make decisions and purchase new goods when they have more energy. Having a central location to focus the convergence of public aid and volunteer help was also useful.

Many respondents indicated their decision making skills were reduced in the days after the event. Consideration should be given to promoting the use a family member, friend or a long term volunteer as a guide and information conduit, through the media and at the centres.

Non-government groups and agencies were best able to respond to and utilize the immediate influx of volunteers. Government agencies should consider methods of enlisting volunteers for longer-term activities.

Long-Term Services

The most important issue in the organization and delivery of services was the value of including a broad broad spectrum of human service workers, volunteers, teachers, family physicians, ministers and others. While inclusion worked well with government agencies some frustration and difficulties were experienced by non-government agencies and groups who worked in relative isolation and were not included in planning and decision making.

This is not to minimize the value of the efforts that were made to include all the players. Organizing the training workshop provided not only a common knowledge base for participants but also oportunities to extend the referral network. The Tornado Response Newsletter was evaluated favorably by recipients and should be considered a useful tool for disseminating information not only about programs and services but also about challenges being faced by survivors and predictable responses.

Outreach

The importance of outreach to assess community concerns and needs is essential to planning appropriate long-term response. Respondents remarks suggest it is of value, not only for the support offered but for the information provided about the normal responses to disaster. While the scope of outreach is determined by the resources available, results indicate that priority on the first contact should be given to those with most serious damage to their homes, those who have relocated outside of the community, and those who have loved ones with injuries or who had someone close to them die. Visiting those in the vicinity is also important as respondents and interviewers indicated that they experienced difficulties but felt they should not ask for help because others were in much worse circumstances. Encouraging word-of-mouth referrals is also a useful strategy. Locating those who have relocated is time consuming and difficult, using police and hospital lists may facilite this process.

Public health nurses were well received by respondents. Their training in prevention provides them with an orientation more focussed on capacities and strengths than pathology. Their access to schools, knowledge of the community, and links with other service providers makes them uniquely suited to this endeavor. However the nature and diversity of problems identified in outreach often required time consuming activities that might well be addressed by volunteers. Consideration should be given to pairing professionals with volunteers who could provide concrete assistance and companion survivors to a number of activities and services. Priority should be given to identifying community leaders and fostering their participation in identifying community concerns and referring those who might benefit from programs.

While timing outreach visits with significant milestones such as Christmas and the first anniversary was appropriate, results indicate that priority should be given to:

1. Those who relocated outside the community.

2. Those with inadequate (or non-existant) insurance.

3. Those with reduced economic circumstances.

4. Those without an adequate support network.

5. Those who had someone close to them die.

6. Those who had a family member with a serious injury.

Counselling

There was a need for therapists with knowledge of disaster related responses. However much of their effectiveness was related to their public education activities which raised their visibility in the community. Locating them within a community centre such as the EBH made access and referral more effective. Including counsellors from other agencies and programs would facilitate identification of common concerns and provide opportunities to share effective strategies.

There was some indication that those survivors who make the greatest contributions during search, rescue and recovery periods may experience a delay in their emotional response. Being therapeutic requires respect for their outstanding contribution or the overwhelming nature of their experience. There may be a normal delayed response as their time an energy are taken up with addressing community needs and those of other survivors.

Public Education

The need for a media relations and public education plan were identified earlier. Plans should identify "media friendly" spokespersons who have previous experience. As well programs that already have credible media hosts should be used to get messages out. Identifying survivors who are willing to speak about their experience can get the message across with greater impact than professionals. Media messages should focus on normal emotional responses and may best be recalled by survivors when seen in print.

Wherever possible acknowledgement should be given to everyone associate with a program or service. Almost everyone wants praise and recognition for their efforts.

As mentioned earlier public education through the media should be supplemented by active community-based strategies such as newsletters, community message boards, informal and formal community leaders, 7-11 stores and drinking establishments. In order to provide on site, up to date and accurate information consideration should be given to a "rumor room" where survivors could go to check out unconfirmed information.

Community meetings were valuable when the agenda is clear and focuses on the provision of concrete information. They should be offered more than once. Public forums to identify issues and concerns are also useful.

Support Groups

Support groups should be kept small to acknowledge varied personalities and leadership styles. Group leaders should be given training in emotional response to disaster. Block talk groups should be fostered as they provide; a place to go for coffee when the sky clouds over and the wind comes up, when the kids are hyper and when survivors need a break.

Support groups should be initiated at different times thoughout the year to accomodate survivors different paths of recovery.

Advocacy

Support should be given to emergent groups for the intent of their activities if not for their style. Acknowledgement of the value of their role, even if it is not done publicly reduces the level of frustration on all sides. Keeping them informed such as providing copies of the Tornado Response Newsletter would have facilitated their work and reduced the need for an adversarial position. As well, community leaders should be considered equal partners in their work.

Service providers should systematically assess and document the experiences, concerns and needs of survivors. Reports should be provided to senior policy makers to keep them informed about issues and concerns being expressed at the community level. Public action is better left to survivors, non-government and emergent groups.

Spirituality, Ceremonies and Rituals

Disaster events often require survivors to question their purpose and meaning in the world and they need support to explore feelings about God and spirituality. Established churches should take a more active role in this area.

Ceremonies are important in acknowledgeing the event publicly. However respondents indicated that ceremonies and rituals that were personalized and organized from within the community had the most meaning.

Aid and Insurance

Most respondents indicated satisfaction with aid and insurance settlements. However differential effects were noted between communities. Evergreen expressed greater disatisfaction with the adequacy of both insurance and government and Red Cross assistance.

Results indicate that there were two significant issues related to aid programs. The first was the importance of the public promises made by politicians to survivors at a vulnerable time in terms of setting expectations. While the political response was warm and compassionate, program implementation did not match expectations. The importance of community input and representation on policy and decision making committees was evident. Agency representatives should ensure that community concerns are passed on to decison makers.

Policies and procedures should be examined to ensure they will not exacerbate the problems of the poor.

The universal provision of reelocation grants while generous in their concept were redundant for those with adequate insurance. Those funds may be better directed to those with greatest need.

With respect to insurance better information should be provided to mobile home owners about the unique problems related to insuring homes. The names of reputable contractors should be published along with guidelines of possible timelines.

Insurance agents and contractors should be informed about survivor response and advised not to promise what they can not deliver. Insurance agents should have an opportunity for debriefings especially young ones.

Directions for Future Research

The increasing interest in conducting disaster research raises a number of ethical and logistical concerns. Different research questions may be addressed, and different time periods may be required for different studies. However utilizing the same subject pool, particularly if it includes the survivors most impacted by the event, is stressful for respondents. In this event TRACC and the EBH set policy guidelines with respect to approving research proposals. This had some effect when researchers required access to lists of names of survivors or other information. Emergency Preparedness Canada could expand its role and raise its visibility within the academic community as coodinator of disaster research. Guidelines with provincial counterparts could also be established. Greater collaboration between Emergency Preparedness Canada, universities and local authorities should prevent or minimize duplication of effort and ensure research that is relevant and of high quality.

In terms of specific recommendations for future research with respect to the results from this study suggestions have been made throughout the text. Here they are summarized in point form.

What are the considerations survivors use when they define recovery and their stage in that process?

What are the activities and shifts in perceptions that increase survivors sense of mastery and integration of the event?

What are the types of therapeutic interventions that are most effective in counselling survivors?

What types of groups are most in need of debriefing?

What are the criteria best used to determine the scope and frequency of outreach?

What is the relationship between behavior and experience of the event and long term recovery?

What are the relationships between survivors expectations with regards to aid, the equitability of program implementation and satisfaction with programs compared across different events?

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APPENDIX A

DEPARTMENT/AGENCY

Disaster Services

Edmonton Police Department

Edmonton Fire Department

Edmonton Transportation

Edmonton Telephones

Edmonton Water & Sanitation

Edmonton Power

Edmonton Ambulance Authority

Edmonton Corporate Communications

City Health Department

Edmonton Social Services

Northwestern Utilities

Alta. Occupational Health & Safety

Alta. Public Safety Services (Disaster Services)

Edmonton Emergency Planning Office

APPENDIX B

CODE

NAME

ADDRESS

DATE

CODER

Record of Attempted Contacts

Date (MM/DD)	Time of Day	Status	Comments	Length of Interview
1.		1 2 3 4 5		
2.		1 2 3 4 5		
3.		1 2 3 4 5		
4.		1 2 3 4 5		

Status:
1) No Answer
2) Wrong Address
3) Call Back
4) Interview Set Up
5) Refused

Katherine Cormie
Psychologist

1988 08

CODE

001 — 003

TORNADO QUESTIONNAIRE

CODER

004 005

The questions I would like to ask you cover four main areas. I'll start with asking you some basic background information. Then I'll ask what happened to you at the time the tornado hit. The third series of questions deals with where you got help, information, and support after the disaster. The last questions have to do with changes that may have happened in your daily life since the tornado. Each time I begin a new series of questions I will let you know what they will be about. If at anytime you do not want to answer a question please tell me and I will move to the next one. The answers and information that you share with me are confidential. Is there anything you want to ask before we start?

1. First of all could you tell me where you were living at the time of the tornado?

    1 Evergreen Trailer Park
    2 Frazer
    3 Bannerman
    9 Other ________________

006

2. And how many years had you lived there?

    _____

007 008

3. How many adults and children, including yourself, were living in your home at the time the tornado hit?

    _____

009

4. At that time what was the age and relationship of each person to you?

Relationship	Age	M	F
1 Self	___	1	2
2 Spouse	___	1	2
_____	___	1	2
_____	___	1	2
_____	___	1	2
_____	___	1	2
_____	___	1	2

CODING

1 = self
2 = spouse
3 = child
4 = relative
5 = friend
9 = other

010 ___ ___ ___ ___
___ ___ ___ ___
___ ___ ___ ___
___ ___ ___ ___
___ ___ ___ ___
___ ___ ___ ___
___ ___ ___ 037

5. Did you get any prior warning of the tornado?

1 Yes
2 No - GO TO 7

038

6. How were you warned?

	Yes	No
1 Radio	1	2
2 Television	1	2
3 Telephone	1	2
4 Word of Mouth	1	2
5 Personal Sighting	1	2
9 Other __________	1	2

039 ___
___
___
___
___
___ 044

7. Were you in the path of the tornado when it struck?

1 Yes
2 No - GO TO 17

045

8. Where were you?

1 Home
2 Work
9 Other __________

046

9. Who else was with you?

	Yes	No
1 No one	1	[✓ 2]
2 Spouse	1	2
3 Children	1	2
4 Relative not living with you	1	2
5 Friend/Neighbor	1	2
6 Co-worker	1	2
9 Other	1	2

047 ___ ___ ___ ___ ___ ___ 053

10. Did you know what to do to protect yourself as best you could?

1 Yes
2 No

054

11. When the tornado hit what did you do?

____
____
____
____
____
____

055 ___ ___ ___ ___ ___ ___ ___ 062

12. Was there anyone who checked to see if you were alright or helped rescue you?

1 Yes
2 No - GO TO 20

063

13. Who was the first?

____
____

064 065

14. What did they do?

____

____

____

____

____

066 067

15. Were there any others?

1 Yes
2 No - GO TO 20

068

16. What did they do?

____

____

____

069 070

17. When the tornado struck, were those who live with you in its path?

1 Yes
2 No - GO TO 19

071

18. Did you know they were there?

1 Yes
2 No

072

19. What did you do?

____

____

____

____

____

____

073 __ __
__ __
__ 078

20. Where did you first go after the tornado struck?

__ 1 Home
__ 2 Hospital
__ 3 Medi Centre
__ 4 Relatives
__ 5 Friends
__ 6 Government Centre
__ 7 Hotel/motel
__ 9 Other ____________

079 __ __
__ __
__ __
__ 086

21. How did you get there?

____

087

22. Where did you go after? (Number in order)

__ 1 Home
__ 2 Hospital
__ 3 Medi Centre
__ 4 Relatives
__ 5 Friends
__ 6 Government Centre
__ 7 Hotel/motel
__ 8 N/A
__ 9 Other

088 __ __
__ __
__ __
__ __
096

23. How long did it take to learn of the whereabouts of the rest of your family?

______ hrs

097 098

24. Were you or those close to you, such as family and friends injured?

1 Yes
2 No - GO TO 27

099

25. Did the injuries require:

	SELF	FAMILY MEMBER	FRIENDS/ RELATIVES
1 treatment on the spot	1	2	3
2 visiting a doctor	1	2	3
3 being hospitalized	1	2	3

100 __ __ __
__ __ __
__ __ 108

Comments:

____
____
____

109 __ __
__ 112

26. Are you or members of your family still under a doctors care as a result of injuries received at that time?

1 Yes
2 No

113

27. Was anyone you know killed?

1 Yes
2 No - GO TO 29

114

28. What was the relationship?

	Yes	No
1 Family	1	2
2 Friend	1	2
3 Acquaintance	1	2

115 ___ ___ 117

29. Had you or members of your family been in a disaster before?

1 Yes
2 No - GO TO 31

118

30. Was there anything you learned from that experience that help you cope with this one?

1 Yes
2 No

119

Please explain:

____

____

120 ___ ___ ___ 123

31. At the actual time of the tornado do you feel you

1 managed as well as anybody could have
2 did much more than you expected
3 let yourself down
4 let others down

124

Please explain:

______________________________ 125 __ __

______________________________ __ __

______________________________ __ __

______________________________ __ 132

____

Now I would like to ask some questions about any damage to your property and your experiences during the cleanup and rebuilding time.

32. Prior to the tornado did you own or rent your dwelling?

1 Own
2 Rent

133

33. Was the place you lived in damaged?

1 Yes
2 No - GO TO 45

134

34. Did it require ...

1 clean up
2 some repairs
3 major reconstruction
4 total replacement

135

35. What was the approximate cost of damage?

____

136 __ __ 139

36. Did you have to move out of your home? (In Evergreen everyone will probably say yes)

1 Yes
2 No - GO TO 39

140

37. Where did you go (number in order) and how long did you stay in each place (days)?

1 hotels/motels ______ ______ ______ ______
2 relatives ______ ______ ______ ______
3 friends ______ ______ ______ ______
4 CMHC/AMHC ______ ______ ______ ______
5 elsewhere ________ ______ ______ ______ ______
____

141 __ __ __ __
__ __ __ __
__ __ __ __
__ __ __ __
__ __ __ 160

38. Please describe in your own words what kind of adjustments you had to make when you were living elsewhere.

____
____
____
____
____

161 __ __
__ __
__ __
__ __
__ 170

39. On a scale of 1-5 with 1 being everything went wrong and 5 being trouble free, how would you describe your cleanup and rebuilding experience at the time?

1	2	3	4	5
Everything Wrong				Trouble Free

171

And now looking back?

1	2	3	4	5
Everything Wrong				Trouble Free

172

If 1 or 2, please explain?

____
____
____

173 __ __
__ 176

These next questions are about insurance and other financial aid you may have received.

40. Did you have insurance?

1 Yes
2 No - GO TO 45 177

41. Did you know what your insurance policy covered before the tornado?

1 Yes
2 No 178

Comments:

____ 179 180

____

____

42. How fairly do you think the insurance company treated your claim?

1 very fairly
2 somewhat fairly 181
3 somewhat unfairly
4 very unfairly

43. Did your insurance company process your claim ...

1 too quickly
2 about right 182
3 too slowly

44. Did your insurance company replace damaged or lost property ...

1 more than expected
2 about right 183
3 not enough

45. As a result of the tornado experience did you make any changes with respect to insurance coverage?

1 Yes
2 No - GO TO 47 184

46. Please explain:

____ 185 186

____

47. Did you make a claim for financial aid from the Provincial Government?

1 Yes — 187
2 No - GO TO 51

48. How fairly do you think the Government treated your claim?

1 very fairly
2 somewhat fairly — 188
3 somewhat unfairly
4 very unfairly

49. Did the Government process your claim ...

1 too quickly
2 about right — 189
3 too slowly

50. Did the Government replace damaged or lost property ...

1 more than expected
2 about right — 190
3 not enough

N/A

51. Did you make a claim for financial aid from the Red Cross?

1 Yes — 191
2 No - GO TO 54

52. How fairly do you think the Red Cross treated your claim?

1 very fairly
2 somewhat fairly — 192
3 somewhat unfairly
4 very unfairly

53. Did the Red Cross process your claim ...

1 very quickly
2 about right
3 too slowly — 193

54. Was your vehicle damaged?

1 Yes
2 No - GO TO 58 — 194

55. Were you without transportation?

__________ (days) — 195 196

56. How did you get around without your own vehicle? — 197

	Yes	No	
1 Another family vehicle	1	2	___
2 Friends.	1	2	___
3 Rented car	1	2	___
4 Public transit	1	2	___
5 Taxi	1	2	___
6 Borrowed car	1	2	___
9 Other __________	1	2	203

57. Was your vehicle replaced or repaired satisfactorily?

1 Yes
2 No — 204

58. Did you lose important personal possessions such as pictures, family heirlooms, diaries, or other special items?

1 Yes
2 No - GO TO 61 — 205

Comments:

____ — 206 207

____

59. Has anything helped ease that loss?

1 Yes 208
2 No - GO TO 61

60. Please explain.

____ 209 210

____

____

Now I would like to ask you a few questions about where you obtained help, information, and support over the past several months.

61. Did you or your family attend any of the community information meetings?

1 Yes 211
2 No - GO TO 66

62. Were they attended just after the tornado?

1 Yes
2 No - GO TO 64 212

63. Could you describe whether they were helpful?

____ 213 ___ ___

____ ___ ___

____ ___ 218

____

____

64. Were they this spring?

1 Yes 219
2 No - GO TO 66

65. Could you describe whether they were helpful? — 220 ___ ___

____ ___ ___

____ ___ 225

____

____

66. Did you or your family receive written information, such as brochures or pamphlets, to help you cope with the experience?

1 Yes
2 No - GO TO 68

226

67. Do you recall which ones? (Carry samples) — 227 ___ ___

1 ______ 5 ______
2 ______ 6 ______
3 ______ 7 ______
4 ______ 8 ______

___ ___
___ ___
___ 234

68. Do you know about the tornado safety warnings on page 44 of the telephone book (white pages)?

1 Yes
2 No

235

69. Newspaper, radio, and television carried many features about tornados. Please tell me about any that you recall hearing or reading.

	PRINT	RADIO	T.V.	
1 Knowing where to get help	1	2	3	236 ___ ___ ___
2 Understanding how tornados develop	1	2	3	___ ___ ___
3 Knowing natural emotional reactions after a disaster	1	2	3	___ ___ ___
4 Knowing how to make a family emergency plan	1	2	3	___ ___ ___
5 Knowing how to protect yourself in a tornado	1	2	3	___ ___ 250

70. What did you think about the tornado coverage ...

1 ~~Over the past few months~~ AT THE TIME OF THE ANNIVERSARY

______________________________ 251 __ __

______________________________ __ 254

____

____

2 At the time of the ~~tornado~~ TORNADO

______________________________ 255 __ __

______________________________ __ 258

____

____

71. Did you get offers of help from family and friends?

1 Yes
2 No - GO TO 74

259

72. Could you indicate any on this list?

260

	Offered		Accepted	
	Yes	No	Yes	No
1 Information about help available	1	2	3	4
2 Meals/food	1	2	3	4
3 Shelter	1	2	3	4
4 Money	1	2	3	4
5 Babysitting	1	2	3	4
6 Someone to talk to	1	2	3	4
7 Clean up	1	2	3	4
8 Material things eg. clothes, furniture	1	2	3	4
9 Other	1	2	3	4

277

73. Was there anything else?

____ 278

____

74. Apart from family and friends was there an individual(s) or group(s) that were of great assistance to you or your family?

1 Yes
2 No - GO TO 78 279

75. Was this at the time the tornado hit?

1 Yes
2 No 280

What did they do?

____ 281 282

____

76. During the clean-up?

1 Yes
2 No 283

What did they do?

____ 284 285

____

77. Or in the months since then?

1 Yes
2 No 286

What did they do?

____ 287 288

____

78. Was there any individual(s) or group(s) that served to make things more difficult?

1 Yes
2 No - GO TO 82 $\overline{289}$

$\overline{290}$ $\overline{291}$

79. Just after the tornado?

1 Yes
2 No $\overline{292}$

What did they do?

$\overline{293}$ $\overline{294}$

80. During the clean-up?

1 Yes $\overline{295}$
2 No

What did they do?

$\overline{296}$ $\overline{297}$

81. How about in the months since then?

1 Yes
2 No $\overline{298}$

What did they do?

$\overline{299}$ $\overline{300}$

300

Just after the tornado the Victims Assistance Centre was set up at M.E. Lazerte High School in an attempt to take care of all victims needs in one place. (Refer to card describing services if they are not sure about services provided)

82. Did you know about this centre?

    1 Yes - GO TO 85
    2 No — 301

83. If you had known about it would you have used it?

    1 Yes - GO TO 92
    2 No — 302

84. If no, why not?

____

____ 303 304

85. How did you hear about it? — 305

	Yes	No	
1 Newspaper	1	2	
2 Television	1	2	
3 Radio	1	2	
4 Word of mouth	1	2	
9 Other __________	1	2	309

86. What did you know about what they were doing there? — 310

____

____

____ 312

87. Do you think you needed the type of services offered at this centre?

    1 Yes
    2 No - GO TO 92 — 313

88. Did you go to the centre?

1 Yes
2 No - GO TO 92 314

Comments:

315 316

89. Was it in a convenient location?

1 Yes
2 No 317

Comments:

318 319

90. Did you think it was open long enough?

1 Yes
2 No 320

91. Did you get what you needed from it?

1 Yes
2 No 321

Comments:

322 323

92. Would you want this centre in place again in another disaster?

1 Yes
2 No 324

Comments:

325 326

Many people from different groups and agencies have wanted to help. Programs and services have been going on for the past year and I would like to ask some questions about what you knew of these.

93. First, do you remember anyone calling or coming to your home to offer help or to see how you were doing?

1 Yes
2 No - GO TO 100 327

94. Could we take these one at a time?

______ ______ ______ 328 329 330

95. What type of help did they offer?

______ ______ ______ 331 ___ ___ ___
______ ______ ______ ___ ___ ___
______ ______ ______ ___ ___ 339
______ ______ ______
______ ______ ______
______ ______ ______
______ ______ ______

96. Did you think you needed this offer of help?

1 Yes 1 Yes 1 Yes
2 No 2 No 2 No 340 ___ 342

97. Did they come at a time that was most helpful?

1 Yes 1 Yes 1 Yes
2 No 2 No 2 No 343 ___ 345

98. Comments:

______ ______ ______ 346 ___ 348
______ ______ ______

99. Was the service helpful?

1 Yes	1 Yes	1 Yes	
2 No	2 No	2 No	349 — 351
9 Other	9 Other	9 Other	

Comments:

352 ___ ___ ___

___ ___ 357

100. Do you think this service should be in place in another disaster?

1 Yes	1 Yes	1 Yes	
2 No	2 No	2 No	358 — 360

101. Do you recall any community programs that you or your family participated in such as a support or information group?

1 Yes

2 No - GO TO 107 — 361 — 363

102 How did you hear about them?

364 — 366

103. Did they contact you or did you contact them?

1 They	1 They	1 They	
2 You	2 You	2 You	367 — 369
3 Don't recall	3 Don't recall	3 Don't recall	

104. What did you know about the program?

____________	____________	____________	370 — 372
____________	____________	____________	

105. Was it offered at a time when it would be most helpful?

1 Yes 2 No	1 Yes 2 No	1 Yes 2 No	373 — 375

Please explain:

____________	____________	____________	376 — 378
____________	____________	____________	

106. Was the program helpful?

1 Yes 2 No 9 Other	1 Yes 2 No 9 Other	1 Yes 2 No 9 Other	379 — 381

Comments:

____________	____________	____________	382 — 384
____________	____________	____________	

107. Do you think this type of program should be offered in another disaster?

1 Yes 2 No 9 Other	1 Yes 2 No 9 Other	1 Yes 2 No 9 Other	385 — 387

Comments:

____________	____________	____________	388 — 390
____________	____________	____________	

108. Were there any services or programs that you knew about but did not need or did not participate in?

1 Yes
2 No - GO TO 112 391

109. If so which ones?

______ ______ ______ 392 — 394

______ ______ ______ ______

110. Do you think it should be offered in another disaster?

1 Yes 1 Yes 1 Yes 395 — 397
2 No 2 No 2 No

Comments:

______ ______ ______ 398 — 400

______ ______ ______

______ ______ ______

______ ______ ______

111. Here is a list of some of the services that were available. Could you please indicate those that you were not aware of.

______ ______ ______ ______ ______ 401 ___ ___ ___ ___

______ ______ ______ ______ ______ ___ ___ ___ ___ 410

112. Ok, this is what ______________ offered. If you had known about this service would you have used it?

______ ______ ______ ______ ______ 411 ___ ___ ___ ___

1 Yes 1 Yes 1 Yes 1 Yes 1 Yes
2 No 2 No 2 No 2 No 2 No

3 DON'T KNOW
N/A

______ ______ ______ ______ ______ ___ ___ ___ ___ 420

1 Yes 1 Yes 1 Yes 1 Yes 1 Yes
2 No 2 No 2 No 2 No 2 No

113. How do you think people could have become more aware of these services?

421

424

114. Did you get help, information, or counselling on your own.

1 Yes
2 No - GO TO 117

425

115. Was it from ...

426

	Yes	No
1 Church Minister	1	2
2 Family Doctor	1	2
3 Professional Counsellor	1	2
9 Other ______________	1	2

429

116. Was it helpful?

1 Yes
2 No
9 Other

430

Comments:

431 432

117. Do you think there was anything else that could have been done for survivors that wasn't?

433 ___ ___

___ 436

Now a few questions about changes, if any, that have occurred in your relationships and your day to day activities.

118. How many of the adults in your neighborhood would you know by name if you met them on the street?

1 Before the tornado	2 After the tornado
1 None	1 None
2 Almost none	2 Almost none
3 Less than half	3 Less than half
4 About half	4 About half
5 More than half	5 More than half
6 Almost all	6 Almost all
7 All of them	7 All of them

437 438

Comments:

439 440

119. In the past year have your friends ...

1 Become closer
2 Remained the same
3 Grown farther apart
9 Other

441

If 1, 3, or 9 could you tell me a bit about this?

____

____

____

442 443

120. How about your relatives, have you ...

1 Become closer
2 Remained the same
3 Grown farther apart
9 Other

444

If 1, 3, or 9 could you tell me a bit about this?

____

____

____

445 446

121. And has your family ...

1 Become closer
2 Remained the same
3 Grown farther apart
9 Other

447

If 1, 3, or 9 could you tell me a bit about this?

____

____

____

448 449

Now these questions deal with some of the common experiences and feelings people have after a disaster.

122. In the past year have fears of the tornado been on your mind?

1 Often
2 Sometimes
3 Never - GO TO 124

$\overline{450}$

123. Do these occur at any particular time?

____

____

____

$\overline{451}$ $\overline{452}$

124. Up until New Years did you have dreams about the tornado?

1 Often
2 Sometimes
3 Never

$\overline{453}$

125. Since then do you still have dreams?

1 Often
2 Sometimes
3 Never

$\overline{454}$

126. During the past year did you have the same interest as ever in the activities that were important before the tornado, such as sports, playing cards, reading, or going to the movies?

1 Yes
2 No

$\overline{455}$

Comments:

____

____

____

$\overline{456}$ $\overline{457}$

127. Just after the tornado were you numb or emotionally unfeeling?

1 Often
2 Sometimes 458
3 Never

128. Do you feel like that now?

1 Often
2 Sometimes 459
3 Never

129. Just after the tornado were you jumpy, edgy, or more emotional than before?

1 Often
2 Sometimes 460
3 Never

130. If 1 or 2 when did this occur?

____ 461
____

131. Do you ever feel like that now?

1 Often
2 Sometimes 462
3 Never

132. If 1 or 2 when does this happen?

____ 463
____

133. Up until the New Year did you experience sleep disturbances?

1 Often
2 Sometimes 464
3 Never

134. Do you now?

1 Often
2 Sometimes 465
3 Never

135. Do you feel badly that you came out better or perhaps went through less pain than others?

1 Often
2 Sometimes 466
3 Never

136. In the year since the tornado has there been a change in the amount of time you and your family spend on the things you like to do?

1 Lower
2 Same 467
3 Higher

137. As a result of the tornado do you feel your financial situation has ...

1 Improved
2 Remained the same - GO TO 137 468
3 Is worse

If 1 or 3 please explain:

____ 469 470

____

____

137. At the time of the tornado were you ...

1 Single and never married
2 Living Together
3 Married 471
4 Separated
5 Divorced
6 Widowed

138. Has this status changed since the tornado?

1 Yes GO TO 139
2 No - GO TO 140 472

139. Do you feel the tornado contributed to this change?

1 Yes
2 No - GO TO 140

473

Please explain:

474 __ __
__ 477

140. Did the anniversary date have any effect on you?

1 Yes
2 No - GO TO 141

478

Please explain:

479 480

141. How would you describe your own recovery at this time?

1 Is it finished?
2 In progress
3 Barely started

481

142. Is there anything you feel you need in order to continue your recovery process?

1 Yes
2 No - GO TO 143

482

Please explain:

483 484

These last questions are of a much more general nature and are standard to what all surveys ask.

143. How much schooling did you have at the time of the tornado?

1 Grade School (0-9 years)
2 High School (10-12 years)
3 Technical School or College
4 University
5 Graduate or Professional Degree
9 Refuse to answer

485

144. How much schooling did your spouse complete?

1 N/A
2 Grade School (0-9 years)
3 High School (10-12 years)
4 Technical School or College
5 University
6 Graduate or Professional Degree
9 Refuse to answer

486

145. At the time of the tornado were you ...

1 Employed
2 Unemployed
3 Working in the home
4 Student
5 Retired
9 Other

487

146. At the time of the tornado was your spouse ...

1 N/A
2 Employed
3 Unemployed
4 Working in the home
5 Student
6 Retired
9 Other

488

147. Type of employment:

1 Self ____________________ ___ 489
2 Spouse ____________________ ___ 490

148. Did your employment change as a result of the tornado?

1 Yes
2 No - GO TO 149 491

Comments:

______________________________ 492

____

149. Did your spouse's employment change as a result of the tornado?

1 Yes
2 No - GO TO 150 493
3 N/A - GO TO 150

Comments:

______________________________ 494

____

150. Is there anything else that you think is important that I haven't asked about?

______________________________ 495 ___ ___

______________________________ ___ 498

____

____

Thank you for taking the time. Would you like a copy of the survey results?

1 Yes
2 No 499

APPENDIX C

University of Alberta
Edmonton

Faculty of Education
Clinical Services

Canada T6G 2G5

1-135 Education North, Telephone (403) 432-3746

1988 11 04

Dear

In the year since the tornado many individuals, groups, and agencies have been involved in giving help and providing support to those effected. Emergency Preparedness Canada teaches emergency workers and planners from across the country how to respond to disasters and emergencies. They want to know, based on your experience and struggles, what helped and what didn't. We may never have another tornado, but other events will occur here and other parts of Canada. Knowing what was done in Edmonton will help other communities across Canada to better plan.

My name is Katherine Cormie and this is my doctoral research project for the University of Alberta. It is being funded by Emergency Preparedness Canada and I want it to be a useful piece of work. You are the one that really knows what things make a difference. I would like you to participate in an interview to answer questions about the tornado; how you have been doing and what has helped in your recovery process. You were chosen as part of a random sample from the list of the Edmonton Board of Health, where I also work. All your answers will be kept strictly confidential and individuals names are never used. I or one of my interviewers will contact you in person in the near future. If you have any questions, feel free to call me at 438-8850 evenings and weekends, or 482-1965 days. I look forward to your participation.

Sincerely,

Katherine Cormie

KC:sm

APPENDIX D

THE RECOVERY PROCESS IN RELATION TO SERVICE PROVISION AFTER THE 1987 EDMONTON TORNADO

This research project is being supported by Emergency Preparedness Canada to determine the impact of the 1987 tornado and the recovery process of those affected, particularly as it applies to services and programs provided. By learning what things helped, we want to teach people in other communities, as well as those in Edmonton, how to better plan and respond to emergencies and disasters.

Participants in the study will be interviewed for approximately one to one and a half hours. Your participation is completely voluntary and your decision will not have any adverse effect on any services or financial compensation that may have been requested.

Participants may stop the interview at any time and may refuse to answer individual questions. Permission to audio tape sessions is requested to ensure complete answers to questions and to record information that may not be asked directly in the questionaire. Questions that are not understood may be repeated or explained. Information provided by participants will be kept strictly confidential.

CONSENT

The purpose and procedures of the study have been explained to me and I have been given the opportunity to ask questions about the study. I understand that my participation is voluntary and has no effect on any compensation requested. I understand that I may withdraw from the study at any time and may refuse to answer any individual questions. I agree to participate in the study outlined above and have been given a copy of this consent form.

______________________________	______________________
Participant	Date
______________________________	______________________
Witness	Date

APPENDIX E

TORNADO VICTIMS ASSISTANCE

The Victim Assistance Centre at M.E. LaZerte Composite High School, 6804 - 144 Avenue will CEASE operations on Monday, August 10, 1987 at 7:00 p.m.

Anyone still needing assistance after the Centre closes should contact the following agencies and organizations in Edmonton:

- **Disaster registration and enquiries:**
  Red Cross Society
  9931 - 106 Street, Phone 423-2680
- **Registration of losses and damages to personal, residential and commercial property:**
  Alberta Public Safety Services
  10320 - 146 Street,
  Phone 427-2772
- **Identification of immediate and longer term housing needs:**
  Canada Mortgage and Housing Corporation
  #200, 10216 - 124 Street,
  Phone 482-8700
  Alberta Mortgage and Housing Corporation
  9405 - 50 Street, Phone 468-3535
- **Clothing, furniture and appliance needs:**
  Salvation Army Family Services
  10441 - 123 Street,
  Phone 488-0208
- **Food requirements:**
  Edmonton Food Bank
  Phone 425-4190
- **Emergency financial assistance:**
  Your nearest Alberta Social Services Office or, Alberta Social Services
  Crisis Service
  9945 - 107 Street, Phone 427-3390
- **Counselling and health concerns:**
  Your nearest health centre, or,
  Edmonton Board of Health
  Phone 482-1965
- **Water and sanitation problems, utility hookup and clean-up information:**
  City of Edmonton Water and Sanitation
  Phone 428-5145
- **Financial counselling:**
  Alberta Consumer and Corporate Affairs
  Phone 427-5782
- **Insurance information and assistance:**
  Insurance Bureau of Canada
  Phone 423-2212
- **Unemployment Insurance:**
  Your nearest Canada Employment Centre,
  or phone 420-2207
- **Workers' Compensation**
  9912 - 107 Street, phone 427-1100
- **Cheque distribution arrangements for Canada Pension, Old Age Security, Family Allowance, applications and information about survivor benefits:**
  Health and Welfare Canada,
  Income Security Program
  7th Floor, 10055 - 106 Street,
  Phone 420-2630

Alberta
GOVERNMENT OF ALBERTA

APPENDIX F

University of Alberta
Edmonton
Canada T6G 2G5

Faculty of Education
Clinical Services
1-135 Education North, Telephone (403) 432-3746

LETTER OF INTRODUCTION

This is to introduce ______________________________.

She is authorized to interview for the Tornado Recovery Research Project. All information given to her is confidential.

If you have any questions or concerns please feel free to contact me, Katherine Cormie, at 482-1965 during the day or 438-8850 out of work hours.

Thank you for your interest.

Sincerely,

Katherine

Katherine Cormie
Project Director

KC:sm

APPENDIX G

CONTRACT

I, Katherine Cormie, wish to contract with you to conduct interviews with survivors from the 1987 Edmonton Tornado. Required tasks include the following:

1. To participate in training sessions.
2. To attempt at least four contacts on different days and different times with subjects. To record these attempts.
3. To set up interviews or record reasons for declining to participate.
4. To conduct interviews and record all responses on questionaire.
5. To record codes on side column.

Renumeration will be at the rate of $10.00 per hour for the training session and $25.00 for each completed interview. Payment will be issued within 30 days, upon receipt of completed interviews and invoice. You are responsible for travel, unemployment insurance, and Canada pension.

Katherine Cormie ______________________ Date ______________________

Interviewer ______________________ Date ______________________

APPENDIX H

AGENCY QUESTIONNAIRE

1. Was your group or agency part of any pre-disaster planning network?

2. Was ther pre-disaster contact with other agencies?

3. Could you provide a description of programs and services offered?

4. What were the number of full time paid employees assigned to tornado recovery? Length and amount of time allocated to disaster programs?

5. Did you receive any additional funding for programs? If so, from where?

6. What was the total cost of programs and services?

7. What was the impact, if any, on regular programming?

8. What was the impact, if any, on service providers?

9. With which agencies were referrals made or received?

10. What were the formal and informal communication structures that developed with other groups and agencies?

11. What recommendations would you make in the event of future disasters?

APPENDIX I

University of Alberta
Edmonton

Faculty of Education
Clinical Services

Canada T6G 2G5

1-135 Education North, Telephone (403) 432-3746

1988 01 30

Dear

As you may be aware, I am researching the recovery process of those affected by the July 31, 1987, Edmonton tornado. This is my doctoral research for the University of Alberta, Department of Educational Psychology and is sponsored by Emergency Preparedness Canada.

We are in the process of interviewing approximately 125 survivors from the Clareview and Evergreen communities. In part I am examining the impact of the help, information, and support provided by volunteer groups and government and non-government organizations. The type of help and support offered by friends and relatives is also being documented. Interviews with selected media representatives and the survivors' perception of their activities and role will also be investigated.

I am requesting your agency's cooperation with this project. Sepcifically, would you or your designate participate in an interview or provide written documentation that would address the general questions outlined in the enclosed attachment? In describing your agencies activities I would provide you with a draft for you to comment on content accuracy. I would also be happy to review with you the questionnaire developed for the interviews with survivors.

If you are interested in participating, or if you have any questions, could you or your designate please contact me at 482-1965.

Sincerely,

Katherine Cormie

APPENDIX J

Do the windstorms frighten you?
Guess what, they frighten your neighbour too!!
Do you hop in your car with a suitcase in tow?
Take a look at how fast your neighbour can go!!!
Are you the first one out or last one back?
167th is now our private race track.

Is staying calm sometimes tough?
Is staying rational sometimes rough?
Do you feel like a fool not staying to fight?
To panic and flee is a survivors right!!!

Are you nervous and edgy as each storm approaches?
Join us your friends and proffessional coaches,
Lets all work togeather to beat this damn stuff,
As everyone knows Evergreeners are tough.

* *

DISCUSS YOUR FEARS AND QUESTIONS AND HOW TO PANIC EVERGREEN STYLE!!!!

- Former Tornado Victims Committee Executive
  - Park Management
    - Environment Canada
      - City Disaster Planning
        - Disaster Services
          - Catholic Social Services
            - Mental Health
              - Edmonton Social Services

* *
* *

RETAIL CENTER ...... 7:30 P.M.........Thurs. June 9, 1988

APPENDIX K

Tornado RESPONSE Newsletter

Issue No. 2
January, 1988

RESPONSE NOTES

After immediate response to disaster ends and media attention fades, we often forget that survivors must cope with the after-effects of the experience. This issue of the Tornado Response Newsletter focuses on post-disaster recovery.

The feature article looks at phases people may go through in recovery.

Other stories report on the various ways community and government agencies are assisting Edmonton's tornado survivors with the longer-term recovery process.

Audio-visual and print resources that deal specifically with disaster recovery and its phases are highlighted in this issue. These materials may be used for professional or public education.

As the months pass and the anniversary of last summer's tornado approaches, it is important to remember that the event affected thousands of people and caused millions of dollars of damage. While some people may fare well along the road to recovery, others may require help at different points with delayed reactions and changing needs.

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UPCOMING EVENT
Debriefing Workshop
"Helping the Helper"

March 9 and 10, 1988
Alberta Public Safety Services Training School
10429-157 St. Edmonton, Alberta

Dr. J. T. Mitchell, Psychologist and Firefighter/ Paramedic from the University of Baltimore, will lead this debriefing training. The workshop is designed for mental and public health workers and emergency and safety personnel. Fee is $75. For information, call Bob van Goethem, Alberta Disaster Services, at 427-2772.

Funded by the United Way of Edmonton and Area

RECOVERY FROM DISASTER

Recovery from disaster begins soon after the event and may take months or years depending on survivors' individual circumstances. Reports from other natural disasters have shown that most victims progress well with recovery. Mental health professionals experienced in working with disaster victims have noted that people seem to go through recovery in phases. However, there are no "hard and fast" rules to how this process evolves. The time frame for these phases varies with different types of disaster and recovery stages often overlap.

HEROIC AND HONEYMOON PHASES

Some people experience aspects of recovery which have been called the heroic and honeymoon phases. During and immediately following a disaster, these victims are occupied with rescuing others and property. People who go through the honeymoon phase, which may last from 1 week to 3 to 6 months, share a strong feeling of community and the expectation that their needs will be met by government and community agencies. Survivors may show symptoms of stress, such as overactivity and sleeping difficulties, during both these periods of recovery. However, these symptoms subside with time.

DISILLUSIONMENT PHASE

Another stage people may go through during recovery has been called the disillusionment phase. This period may last from 2 months to 1 or 2 years following a disaster. It is a response to various problems people may face in reestablishing their situation to what it was prior to the event. Unfulfilled promises and construction delays may cause some survivors to feel disappointed and frustrated. People may be dissatisfied and angry at what they perceive to be a lack of support from helping agencies. Similarly, perceived withdrawal of social support from family and friends who "don't want to hear about it anymore" may promote feelings of resentment. Jealousy may be a part of the scenario; survivors who have not suffered extensive damage to their homes may envy others in the community who receive larger damage compensation awards. Exclusion from cliques that may have developed during rescue and cleanup operations may prompt jealous reactions in survivors who were not involved in these activities. Children may reflect these added stresses on the family through behaviour problems at school.

The TRN is a joint project of the Edmonton Board of Health, Edmonton Social Services and the Edmonton Region of Alberta Mental Health Services. Funding provided by the United Way of Edmonton and Area

Issue Number Two

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M. Provencher AMHS

RECOVERY....

As initial rebuilding activity slows down, people may spend more time reflecting on their circumstances. More personal possessions destroyed in the disaster may be remembered and intangible losses recognized. For example, people who have lost a loved one in the tornado may realize they have also lost an important life role, such as that of wife or husband.

With the holiday season just over, feelings of loss may currently be more pressing for some of Edmonton's tornado survivors. Comparing this year to past holidays, when for example, loved ones and treasured objects were present, may bring on the "post-Christmas blues". Birthdays, family celebrations and other special occasions may have a similar effect.

RECONSTRUCTION PHASE

At some point disaster survivors realize they themselves have the responsibility for rebuilding their lives and become more active and self-directed in doing so. This part of recovery has been called the reconstruction phase. It may span several years. Activity in this phase includes constructing new buildings, replacing damaged facilities and developing new community programs and plans. People who have been experiencing stress may notice their symptoms subsiding at this time.

It is normal to expect some problems and frustrations to arise during recovery from natural disaster. While most people are able to cope with the process, some may need help. If problems persist or if functioning is impaired, professional help may be required.

TORNADO STRESS COUNSELLORS

Alberta Mental Health has hired the equivalent of three full-time Tornado Stress Counsellors for the purpose of conducting Mental Health follow-up of tornado survivors. This project is designed to ensure that Mental Health Services are available to those suffering emotional consequences from the Edmonton tornado, and to provide support and consultation to staff of other agencies working with tornado survivors.

In addition to rapid and active outreach, the Stress Counsellors will provide information on the normal process of recovery following a major disaster, and treatment to those who require more than education or support. For more information, contact Alberta Mental Health Services at 427-2934.

If you have any tornado response news items for the next newsletter, please submit them to:

TRN Editor,
c/o Edmonton Social Services,
5th Floor, Centennial Library,
7 Sir Winston Churchill Square,
Edmonton, AB., T5J 2V4

Valentine's Dance!

January 29, 1988
7:00-11:00 p.m.
Evergreen Community
Recreational Centre

Sponsored by the Evergreen
Teen Support Group
All Evergreen Teens and Preteens
Are Invited!

EDMONTON BOARD OF HEALTH FOLLOW UP

Edmonton Board of Health nurses have recently completed the second round in their year long follow-up of Edmontonians directly affected by the tornado. Nurses from Clareview Public Health Centre contacted 858 families while Millbourne Public Health nurses followed 27 families, through home visits, phone calls or letters. Approximately 50 families have been followed by other Public Health Centres in the city.

The nurses report that the majority of survivors are currently coping well, however there is wide variation in individual circumstances. Some people have worked through difficulties and are faring better at this point than they were initially. Other survivors' problems are just now surfacing.

Nurses noted some evidence of the disillusionment phase of recovery during the second round. Problems with settlement claims and financial assistance have left some survivors angry and frustrated. Other reactions include sleeping problems, depression and marital difficulties. Behaviour problems and other indicators of childrens' reactions to family stress have appeared at the schools in the tornado-affected communities.

Public health nurses have made referrals to community agencies for survivors needing further counselling services or related assistance. However, many families have been reluctant to seek professional help outside their own community. Catholic Social Services and the Alberta Mental Health Tornado Stress Counsellors have facilitated referrals by making home visits.

In addition to generally satisfactory coping, public health nurses noted positive aspects of recovery in the second round of follow-up. For instance, male participants in the Evergreen and Fraser family support groups grew in their ability to verbalize feelings and to notice emotional reactions in their children, changes which pleased their wives. Another healthy sign is that the tornado-affected communities have begun to identify and address their own needs, themselves. The formation of the Victim's Committee in Evergreen is an example.

The Edmonton Board of Health, based on its assessment of the second follow-up round, has decided that all families identified as requiring follow-up will continue to be followed as necessary. The third and fourth rounds of follow-up contacts, planned for March/April and July, will be combined and completed in May/June 1988.

The Edmonton Board of Health is committed to supporting individual and community rebuilding by maintaining a strong presence in the tornado- affected communities. It is one way of easing the disillusion with helping agencies that some people may be feeling at this time in recovery. Completing the follow-up outreach program, providing on-going public education, remaining attuned to community needs and working with other agencies are all part of the long-term plan for tornado response. For more information, contact Darlene Jones at 474-8266.

SURVIVOR SUPPORT GROUPS UPDATE

Support groups are one means of addressing disaster survivors' changing needs and recovery issues. Groups can be organized for different purposes, such as information sharing, recreation or emotional support. The following is an update on the tornado survivor support groups currently meeting or being developed in Edmonton.

EVERGREEN TEEN SUPPORT GROUP

The Teen Support Group in Evergreen has changed its focus. Originally, group sessions, led by Gail Price-Douglas from Glengarry Social Services, included sports activities and small group discussions about tornado fears and problems. Thirty-five to forty teens participated. However, after six to eight weeks, the teens felt they had talked about their emotional issues enough and wanted to "get on with their lives". The group then took on a greater recreational focus. A staff person from Edmonton Parks and Recreation planned these Monday evening meetings. Recent activities included Halloween and Christmas dances. Group leadership is currently being taken over by the new youth workers from Edmonton Social Services' Youth Outreach Project.

EVERGREEN SENIOR'S GROUP

This group has been organized by Glengarry Social Services to meet the social needs of Evergreen's seniors. Its Friday evening programs center on recreational activities. Although facilitator Pat Power initially had difficulty reaching the seniors, eight to ten are now attending the group on a regular basis.

EVERGREEN MOTHER'S/CHIDREN'S GROUP

A new group for Moms and toddlers is being planned for the Evergreen community. One of the Tornado Stress Counsellors from Alberta Mental Health Services will facilitate the group along with a resident from the community.

PRETEEN AFTER-SCHOOL GROUPS AND FRASER/BANNERMAN TEEN SUPPORT GROUP

The Youth Outreach Project workers of Edmonton Social Services are developing a teen support group in Fraser/Bannerman and after-school programs for preteens in both the Evergreen and Fraser/Bannerman communities. These groups will have recreational, social and discussion components.

Contact names and telephone numbers for each of the support groups are listed in the chart on the following page.

Preteen Skate!

Februrary 3, 1988
6:00 p.m.

The Fraser/Bannerman Preteen Group is having a skating party. All preteens in the community are invited. Meet at Fraser Community School.

SURVIVOR SUPPORT GROUPS

Community	Type	Facilitators	Place	Time
Evergreen	Teen	Youth Outreach Workers Jeff Elliott Kathy Robinson 472-0131	Community Recreation Centre	Monday 7:00-8:30 p.m.
	Preteen	Kathy Robinson Jeff Elliott 472-0131	Community Recreation Centre	Wednesday 3:30-4:45 p.m. (Feb. 3)
	Seniors	Pat Power Glengarry Social Services 428-2413	Community Recreation Centre	Friday 7:00-9:00 p.m.
	Mother's/ Children's	Marian Fletcher Tornado Stress Counsellor 427-2934		
Fraser/ Bannerman	Teen	Kathy Robinson Jeff Elliott 472-0131	Fraser Community School	Wednesday 7:00-8:30 p.m. (Feb. 10)
	Preteen	Kathy Robinson Jeff Elliott 472-0131	Fraser Community School	Tuesday 3:30-4:45

YOUTH OUTREACH PROJECT

Experiences such as surviving a natural disaster can produce emotional reactions in young people that take a long time to resolve. Disaster response efforts, carried out elsewhere in North America, have shown that on-going specialized programs for youth are necessary to this process. To assist youth affected by last summer's tornado, Edmonton Social Services, with funding from the Red Cross, the Rotary Club of Edmonton and Alberta Career Development and Employment, is initiating a ten-month Youth Outreach Project for the Fraser/Bannerman and Evergreen communities.

The project's primary goals are: a) to help youth overcome emotional problems resulting from the tornado and return to a normal life, and b) to develop local leadership for continued youth programming.

Two youth leaders have been employed to design and implement specialized programs for teens and preteens. The programs will have three main components: 1) emotional support for expressing feelings, 2) outreach to youth who are difficult to involve in group activities, and 3) socialization through recreational activities.

The Youth Outreach Project is based out of Fraser Community School. Contact Kathy Robinson or Jeff Elliott at 472-0131.

COMMUNITY LEAGUE LIAISON

Disaster recovery involves not only individuals and families but communities. Recovery on the community level can be described in terms of phases much like individual recovery. As individual needs and reactions may change, community needs and organizational tasks may vary with different recovery phases. To support the broader tornado recovery process, Edmonton Social Services is working with the Evergreen and Fraser/Bannerman community leagues on community development concerns.

A major problem the Evergreen league has encountered since the tornado is finding a facility to house its programs. Leasing the store area used prior to the disaster has become too costly and access to the community recreational centre is limited. Edmonton Social Services is helping the Evergreen Community League to find appropriate land and space. Edmonton Parks and Recreation is currently researching possible locations for a building.

The Fraser/Bannerman Community League has experienced a serious drop in membership (from 300 to 199) as a result of July's tornado. The lowered level of involvement seems to stem from residents' preoccupation with rebuilding their homes and coping with the disaster's aftereffects. Fatigue and low morale are evident in the community. Decreased membership has caused a reduction in general operating funds and there is no money for special items such as hockey jackets and trophies. Both community programs and the league's eligibility for Parks and Recreation grants are threatened. Edmonton Social Services plans to work with the community league executive on finding ways to address these issues and concerns.

While the recovery of these communities seems to be having low points reminiscent of the disillusionment phase, there is also evidence that the reconstruction phase is happening. The community leagues are recognizing, expressing and addressing their needs. Many community members are pulling together and working with commitment on various community projects. One example is the Christmas-light decorating that took place during the holidays. Edmonton Social Services plans to continue its support of these and other community developments. For more information on community league liaison activity, contact Gail Price-Douglas at 428-2414.

Community League Contacts

EVERGREEN

Kim Kittridge - 430-0350
League President - 453-3071 Ext. 216

Nanette Chabot - 430-0125
(Newsletter Editor)

FRASER

Albert Poulet - 427-5893

INTERAGENCY TORNADO RECOVERY COORDINATION

An interagency coordinating committee for tornado recovery initiatives has been meeting monthly in Clareview. The committee is made up of representatives from Glengarry Social Services, Clareview Public Health, Alberta Mental Health Services and Edmonton Parks and Recreation.

Representatives share updates on what their agency is doing in the tornado affected communities and assess recovery progress. Ideas for developing new plans are exchanged and committee members discuss ways their agencies can work together to better serve these communities.

The most recent coordination meeting focused on public education. For more information, contact Gail Price-Douglas at 428-2414.

STRESS MANAGEMENT PROJECT

Fraser Community School has received funding from the United Way of Edmonton and Area to carry out a 40-week stress management program. A physiotherapist is in charge of implementing the program, as well as documenting participants who need referral for physical, emotional or other problems. The program involves relaxation therapy and is open to anyone in the Fraser/Bannerman and Evergreen communities. Sessions are scheduled for Monday evenings from 7:00-8:30 p.m. beginning January 11, 1988. A minimal fee per session is required. For more information, contact Dianne Tenant at 472-0131 (between 1:00 and 4:00).

Did you know that the Edmonton tornado caused from $275,000,00 to $300,000,000 in damage, resulting in over 60,000 insurance claims?

INSURANCE INFORMATION RELAY

The Insurance Bureau of Canada is still providing information relating to tornado damage claims. Their office receives one or two tornado calls per day. Most callers have questions about policy rights and obligations, such as, whether they may change building contractors or delay roof or auto repairs. Replacing the contents of damaged homes is also a concern.

Many calls are from people wanting to make "discovery" claims. These callers have found damage to their property which they had not noticed previously but which they suspect is tornado- related. They seek advice about adding to an existing claim or filing one for the first time.

The Insurance Bureau has also provided public education on understanding insurance policies, rights and obligations to tornado survivor groups. The Fraser/ Bannerman Tornado Support Group included a presentation on this topic in one of its information sessions.

For further information, contact Allan Wood at 423-2212.

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PROVIDERS' PERSPECTIVES

N.B.: In this and the remaining issues of the TRN, we would like to include contributions from people working directly in tornado response initiatives. This issue highlights a report on the recently completed Fraser/Bannerman Tornado Support Group (a family group) from group facilitators Susan Green and Don Dick, Glengarry Social Services. If you would like to share updates, or your experiences in tornado response work, contact the TRN Editor (see page 3).

FRASER/BANNERMAN GROUP FACILITATORS' REPORT

by Susan Green and Don Dick

The Fraser/Bannerman Tornado Support Group held its final session on December 7, 1987. Eleven sessions were held from September to December.

Our group focused on the following areas:

a) sharing experiences and concerns,
b) providing emotional support ,
c) venting frustrations and anger in dealing with various agencies,
d) discussing the tornado's emotional and behavioural impact on individuals and their families,
e) discussing alternatives for managing stress and behavior changes,
f) providing practical information for dealing with insurance companies, Alberta Disaster Services, etc.

Group attendance varied from 3 to 20 participants per session. Child care and limited programming was provided for the children.

Resource people are available to conduct future sessions should community members feel a support group is still needed. Anyone continuing to experience stress or dealing with new issues emerging from the tornado is encouraged to contact Dianne Tenant at Fraser Community School at 472-0131 between 1:00 and 4:00 p.m.

RED CROSS TORNADO RELIEF FUND

To date about 60% (approximately $2,200,000) of the Tornado Relief Fund managed by the Red Cross has been distributed to Edmontonians affected by last summer's tornado. Over 1,000 applications for relief were received by the October 30 deadline. This total included 26 applications for loss of life, approximately 180 for injury/disability and about 700 for property loss and 156 for special needs. Some late applications are still being received, most of which relate to property loss. They will be processed depending on the availability of funds and the legitimacy of request. A volunteer committee made up of representatives from Alberta Social Services, Edmonton Social Services, Alberta Public Safety Services, residents of the affected communities, unions in the industrial area, the Red Cross, Emergency Relief Services, and the United Way reviews the applications. The Red Cross hopes to have funds distributed to all approved claimants by the end of January. For more information, contact Linda Wright at 423-2680.

DISASTER RESOURCES

There are a wide range of resources available for professional and public education that deal with disaster issues. The following are some materials that focus specifically on post-disaster recovery. These and other disaster resources may be accessed through Alberta Public Safety's Disaster Services Branch (427-2772). The Edmonton Public Library, Centennial Branch, also has a collection of print materials on disasters. Contact Rita Noonan, Government Documents Section, at 423-2331.

TORNADO TAPE (#23)
EDMONTON HEALTHLINE, 428-4288
AUDIO-TAPE, 3 MINS..

A short audio-tape which explains the common characteristics of disasters and outlines the immediate and long-term effects on victims, volunteers and professional helpers. The tape provides suggestions for dealing with problems and helping children, as well as a list of follow-up services available in Edmonton for tornado-related concerns. Listeners are encouraged to seek professional help if they feel they are not coping adequately with tornado recovery.

HUMAN RESPONSES TO DISASTER
VHS, 50-60 MINS.

A thorough examination of responses to disaster and of intervention techniques for coping with various aftereffects. Special emphasis is given to problems faced in different stages of recovery. The video is divided into the following six sections:

I. Understanding Disaster and Disaster Related Behaviour
II. Warning, Impact and Rescue Phases
III. Remedy and Early Recovery
IV. Late Phase Recovery Issues and Interventions
V. Children and Disaster

COPING WITH SURVIVAL
(BOOK 6 SECTION 1 - DISASTER SERVICES COLLECTION)

This 31-page handbook deals with psychological and emotional recovery from disaster. Guidelines are given based on typical reactions to air crash survival, however, this discussion may be applied to other types of disaster. The booklet offers suggestions for help and referral.

TORNADO SUPPORT NETWORK

The Tornado Support Network held its second meeting on December 1, 1987 from 3:30 to 4:30 at the Clareview Public Health Centre. Representatives from the Edmonton Board of Health, Alberta Mental Health Services, and the Family Service Association of Edmonton attended. The meeting gave all those present an opportunity to report on the methods in which follow-up services are being provided to tornado survivors.

Since the network does not appear to be of general interest to those from other agencies, it was decided that future meetings will be scheduled on an ad hoc basis amongst those who are directly involved.

APPENDIX L

E-B-H
EDMONTON BOARD OF HEALTH

SUITE 500, 10216 - 124 STREET
EDMONTON, ALBERTA T5N 4A3
TELEPHONE (403) 482 1965

PUTTING IT BACK TOGETHER WITH THE KIDS

Your child may have just learned the world can be a scary and unpredictable place where people can die or get hurt for "no reason". This may raise strong feelings of fear and anxiety that are normal in this situation. The most common fears children may have are:

Being afraid it might happen again
Being afraid of being hurt, dying
Being afraid of being separated from family
Being afraid of being left alone.

Sometimes, children can't talk about these fears as easily as adults and may show their feelings in different ways. You may find your child is more clingy, doesn't want to go to sleep, has bad dreams, or is more withdrawn or aggressive to others. If younger, your children may go back to earlier behaviours such as wetting the bed or thumb sucking. Later on, children may have less energy than usual. These reactions will not last forever -- they are a part of your child's way of handling the situation.

What may be hard for you as a parent is that you have been through the same experience and have many strong feelings yourself. You may find yourself feeling weepy, crying easily or being short fused and irritable. We need to give ourselves and those close to us room to readjust in our own way. It is important to be able to talk to others about how we are feeling. We need lots of support and acceptance and our children need the same. Other things that may be helpful for children are:

1. To be encouraged to talk about their feelings and say what they need to feel better. Children can be very clear about saying what would help.
2. To be cuddled and have fears accepted, saying things like "It's a scary feeling" or "I know you are afraid".
3. To be tucked in at bedtime and perhaps have a nightlight.
4. To play with friends.
5. To be told as simply as you can how the disaster happened.
6. To be given little jobs in the family to feel like they are helping.

If your child's behaviour doesn't change over time or if you are not sure how to handle a certain situation, a quick call to your local public health centre, social service agency or family physician will be helpful.

1987 08 05